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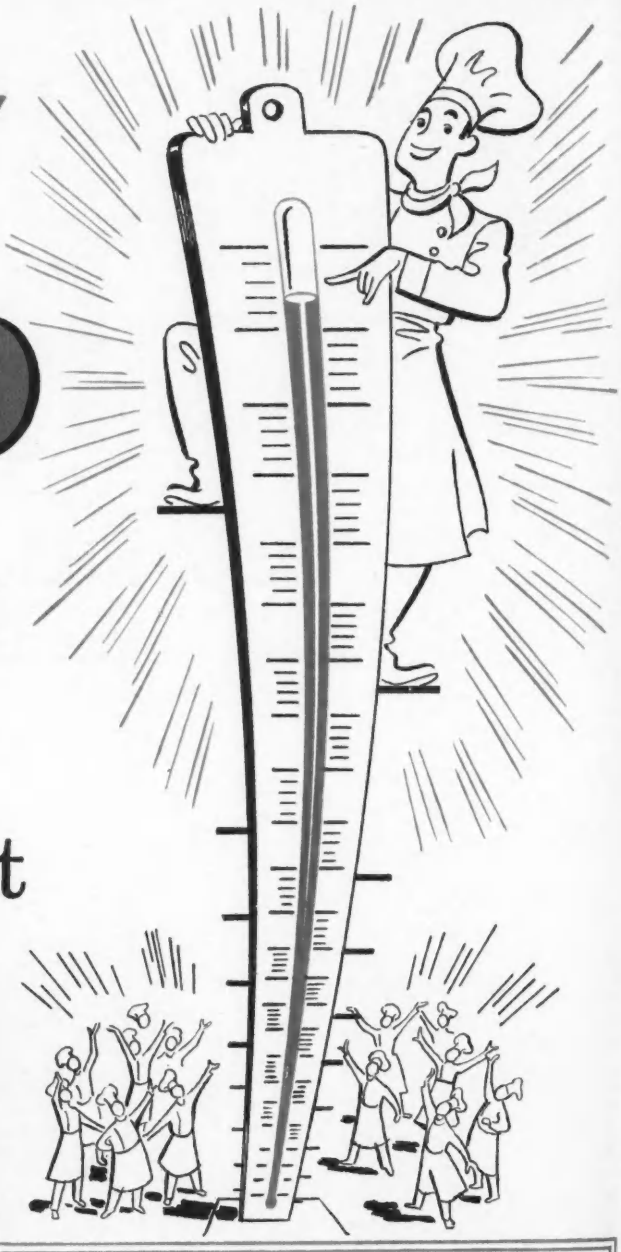

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Nutrition in the Near East[1]

WILLIAM H. ADOLPH, Ph.D.[2]

Professor of Nutrition, American University of Beirut, Beirut, Lebanon

ONLY in recent years have the countries of the Near East taken an active interest in nutritional problems. Little nutrition research is on record; little nutrition data of any sort are available. In fact, there is no clear-cut definition of the term "Near East"; Syria, Lebanon, Jordan, Egypt, Iraq, and Saudi Arabia are certainly included, and Iran presents nutritional and agricultural aspects which suggest that it also belongs to this area. The Near East, so defined and including Iran, has a total population of about 60 million. We are not including Israel, whose food economy at the moment is not linked with that of the neighboring Arab states.

The following account is based mainly on observations in Lebanon and Syria. However, it can be said that the general picture is the same for all of the countries listed above; the dietary habits, the general cultural pattern, geographic and climatic conditions are all similar. Abbasy (1) has written briefly on the nutrition problems of this area.

A CEREAL DIET

The Near East consumes what is essentially a cereal diet. Wheat, eaten mainly as whole wheat bread, is the principal cereal and is the mainstay of the daily diet. Barley, sorghum, maize, and rice are of importance in different areas. Legumes are used in considerable amount. Table 1, which is composed from very fragmentary data, indicates the position which wheat and other cereals occupy among the agricultural crops of the Near East.

LIMITED AMOUNTS OF ANIMAL PRODUCTS

Preliminary dietary studies and such data on food consumption as are available show the dietary pattern for the Near East pictured in Figure 1. The amounts of the different food materials in the diet are expressed in percentages of the total caloric intake. There is some difference between urban and rural diets but the pattern set forth in Figure 1 rather represents the rural dietary, since probably not less than 80 or 85 per cent of the population are agricultural or rural in outlook.

The diagram shows that meat occupies a minor place in the dietary. Milk (cow, goat, sheep, camel, carabao) occurs in the diet, although in small amount; this is in contrast to other areas, such as the Far East, where the amount of milk in the average diet is practically nil (2). A liberal amount of fats and oils is consumed; olive oil is one of the important dietary fats. There is a slight prejudice against poultry, eggs, and fish in some areas.

Leafy vegetables are, in general, not abundant; farmers are inclined to look down upon green vegetables as crops of minor importance.

VALUE OF RURAL DIET IN LEBANON

The nutritive constituents calculated for the diet of rural Lebanon are shown in Table 2. The data for these calculations are based on seven-day dietary studies on a limited number of middle class rural families. They can be regarded as preliminary figures only. In drawing up these calculations, where analyses for local food materials were not available, equivalents from American food tables were used. More exhaustive dietary studies are needed, as well as reliable statistics on food production and food consumption. However, these figures check rather closely with dietary data for corresponding groups studied in Egypt (3) and in Iraq (4).

We have refrained from including in Table 2 a column of figures showing the Recommended Dietary Allowances for the United States. An examination of the data of this table does, however, suggest that the figures for protein, calcium, and perhaps riboflavin are low. The protein is largely derived from vegetarian sources, as shown in Table 3.

WIDE RANGE IN ECONOMIC STATUS

It should be noted that the five or six large cities of the Near East represent in each case, a concentration of wealth, an abundant supply of foodstuffs, and a population with sophisticated tastes. Our

[1] Received for publication January 6, 1954.

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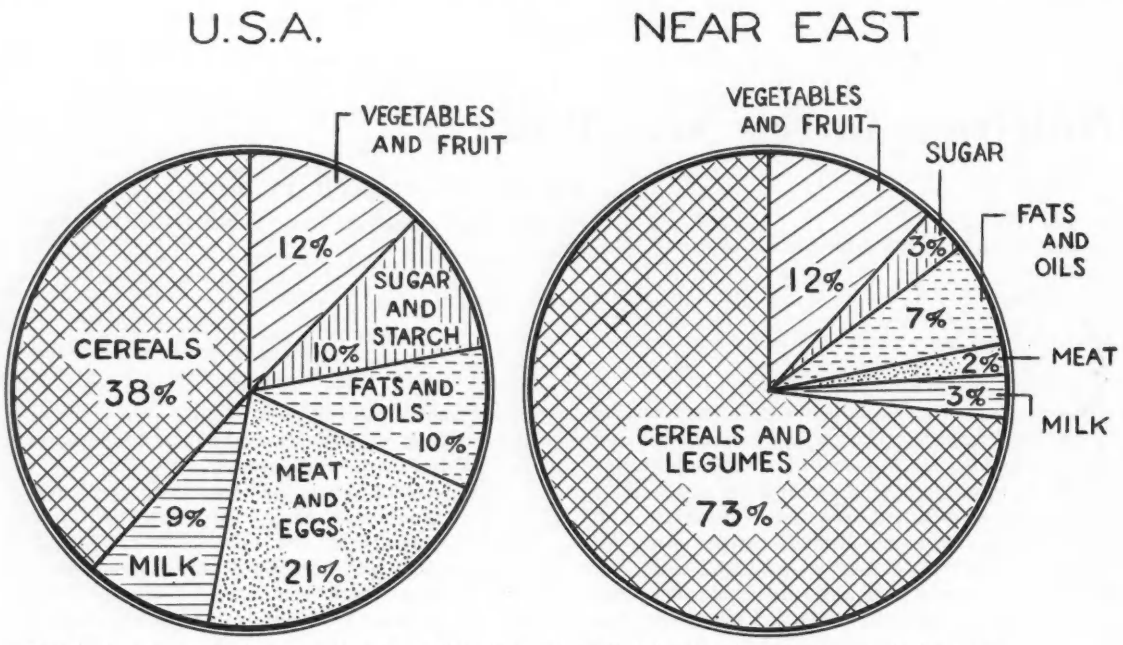

FIG. 1. *Comparison of dietary patterns in the Near East and the United States, in percentage of caloric content.*

records of the food intake of student groups and well-to-do families in the city of Beirut show a dietary pattern not unlike that pictured for the United States in Figure 1. Visitors to the Near East, whose itinerary is limited to these urban centers, have no conception of the monotonous, poorly balanced, and often severely restricted diet of the less privileged classes in the rural areas.

The landlord system of land tenure has tended to accentuate the poverty of the less privileged groups. The economy of the Near East countries is essentially an agricultural economy and population pressure is one of the factors to be considered. Attempts to relieve this pressure in recent years have emphasized irrigation projects and similar programs aiming to increase the area of arable land.

The western world is inclined to visualize the people of the Near East as Arab nomads owning herds of sheep and camels and flourishing on a diet of animal products. There are, to be sure, nomad peoples in certain parts of the Near East, but they actually constitute a small fraction of the total population and even with most of these groups, cereal is usually the staple food material.

NUTRITIONAL STATUS

No large-scale comprehensive surveys have been undertaken in the Near East to establish the nutritional status, but enough preliminary observations have been recorded to indicate that malnutrition is widespread, particularly among the less privileged classes, who are unable to obtain the needed protective foods. The deficiency diseases most frequently reported include avitaminosis-A, ariboflavinosis, and rickets. Scurvy is less common, due no doubt to the fact that this area produces an abundance of citrus fruit.

TABLE 1

Near East agricultural crops in percentage of crop area (estimated)

CROP	LAND AREA %
Wheat	30
Barley	12
Maize	11
Cotton	10
Rice	8
Legumes	5
Sorghum	4

Since most of the wheat consumed is in the form of whole wheat or high extraction flour, diseases due to lack of thiamine appear to be absent.

There is widespread evidence of inadequate protein intake.

There are as yet no accepted height-weight standards for this area. The stature of the people approaches that of Europeans generally. It is estimated that 65 kg. may be taken as the weight for the average adult man without serious error.

FOODS PECULIAR TO THE REGION

The Near East has developed a number of food products with interesting properties. Among these should be mentioned *burghul*, *leban*, and *kishk*.

TABLE 2

Estimated nutritive value of Lebanese rural diet

NUTRIENT	DAILY INTAKE
Calories	2140
Protein (gm.)	56
Calcium (gm.)	0.40
Iron (mg.)	12
Vitamin A (I.U.)	4300
Thiamine (mg.)	1.5
Riboflavin (mg.)	1.0
Niacin (mg.)	13
Ascorbic acid (mg.)	79

Burghul (parboiled wheat) is prepared by heating wheat grain for 2 or 3 hr. in boiling water, followed by quick drying in the hot sun. This drying process is possible in the hot, dry, summer weather of the Near East. The resulting parboiled wheat can then be coarsely ground or cracked and used much as rice is used in cooked dishes. In the parboiling process the vitamin content is not seriously diminished, and the product can be kept almost indefinitely. It is used almost everywhere throughout the Near East area, not to replace wheat bread, but as an adjunct to it. Cooked with meat, it becomes the national dish of Lebanon (*kibbe*).

Leban is the equivalent of the Turkish yoghurt. It is very widely used and is regarded by the Near East peoples as an aid to healthy digestion. It is prepared in the same manner as yoghurt, using fresh milk inoculated with a remnant of the previous day's culture. A number of products are formed from *leban*, after straining off the whey, among which is *lebne*, which appears in different forms.

Kishk is prepared by taking powdered parboiled wheat, adding *leban*, and then drying in the hot sun. The proportions used vary somewhat, but the result is a dry powder of high nutritive value. It is used in the form of a porridge or a soup. In Turkey, the same product appears under the name *tarhana*.

These three food products are being subjected to more careful study in the American University laboratory. They are products developed by necessity in a climate where food preservation is difficult. *Leban* (yoghurt) has been often referred to merely as a device to insure a healthy intestinal flora. In actual fact, it is also a device for preserving the milk against attack by more destructive organisms. *Burghul*, while prepared in a manner that retains the vitamin content of whole wheat, is essentially a means for keeping wheat over a prolonged period. *Kishk* may be looked on as the historical precursor of dried milk powder and, from this point of view, it is of unusual interest to the food technologist.

In Lebanon and Syria, the chick pea (*hommos*) is very widely used among the legumes. It is not well known in other parts of the world, but it has a nutritive value which places it near the top of the list of food legumes.

TABLE 3

Sources and amounts of protein in the Lebanese rural diet and the diet in the United States

FOOD GROUPS	DIETARY PROTEIN	
	Rural Lebanon	U.S.
	gm.	*gm.*
Cereal and legumes	42	29
Vegetables and fruits	9	5
Meat and eggs	2	31
Milk	3	18
Total	56	83

NEW INTEREST IN NUTRITION

The locating of the Food and Agriculture Organization of United Nations in Rome in the Mediterranean area has helped to stimulate an interest in nutritional improvement on the part of the Arab governments of the Near East. In Egypt, a Nutrition Division under the Ministry of Public Health was established about ten years ago. Similar bureaus are being organized in other countries. In Egypt, nutrition surveys have been made, and school feeding programs have been developed. Laboratory data on the chemical composition of Egyptian food materials have been obtained. A nutrition conference with delegates from the Near East countries met in Cairo in 1950 under the auspices of WHO (World Health Organization), FAO, and the Egyptian government.

In Lebanon, a nutrition research laboratory has been established in the School of Medicine of the American University of Beirut. In Jordan, a Food and Nutrition Section has been organized under the Ministry of Economy with a laboratory equipped for nutrition investigations. In Iraq, a preliminary dietary study has been conducted (4), and the services of a visiting nutritionist from abroad have been obtained in setting up a nutrition program. In Iran, as the result of a preliminary nutrition survey conducted by WHO showing widespread malnutrition, a nutrition unit is now being organized under the auspices of the Ministry of Health. It is probable that the next few years will see a considerable increase in our knowledge of the nutritional habits and needs of the peoples of these countries. The Near East governments themselves are taking the initiative in solving these problems.

FEEDING OF PALESTINIAN REFUGEES

Although it is impossible to discuss in detail, brief mention should be made of the relief feeding project being undertaken by the United Nations in this area. Almost one million non-Jewish inhabitants fled from their homes in Palestine during the Arab-Israeli hostilities five years ago. These refugees, now in temporary camps, have for these five years been fed by the United Nations.

There is a small staff of medical officers and a nutritionist supervising the feeding program and supplying medical care, with occasional inspection by nutrition experts from WHO and FAO. There seems no immediate solution to the problem of the Palestinian refugees, and it may be necessary for the United Nations to continue this nutrition project indefinitely.

PROBLEMS OF THE FUTURE

The wide use of whole wheat and whole wheat products such as parboiled wheat, is the outstanding characteristic of this area. It is advisable that, no matter what adjustments are made in the economy, the habit of using whole cereals should not be lost, and even more extended use of these products is to be recommended. The larger use of milk products, such as *leban*, is likewise to be encouraged; an increased milk supply may be possible if the proposals for improved dairy industries are carried through. At the same time, sanitary improvements in the handling of milk must not be overlooked.

The governments concerned are being urged to undertake intensive educational programs in nutrition. Substantial results are being reported wherever a school feeding program has been established. An educational program should emphasize the importance of green vegetables and of the protective foods generally. In many regions of the Near East, tea within recent years has become an important item of the dietary; at least it has come to involve a considerable portion of the food budget which should be devoted to more nutritious essentials. Children in many places are sent off to school after a breakfast consisting of a piece of Arab whole wheat bread and a cup of hot tea and sugar. The proper place of tea in the dietary must be explained and demonstrated. Finally, the use of legumes of high nutritive value should be encouraged to insure an adequate protein intake.

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The Problems of Taste Testing

Keen interest in measuring consumer response to food products has developed within recent years, both among industrial and scientific groups. However, the diversity of approaches and the difficulty in standardizing test methods indicates a need for standardization. Conferences have been held for this purpose, one recently convening in Chicago under the sponsorship of the National Research Council's Advisory Committee on Quartermaster problems. The program was planned by the staff of the Quartermaster Food and Container Institute of the U. S. Army, and included papers on methods of predicting response to food and of investigating and controlling food flavors.

Dr. H. Schlosberg, Brown University, reported that apparently the best or only way to obtain more stable and sensitive measurements of responses to foods is to increase panel size. His conclusion was based on a long-term study of the problem of selecting and training panels. This study has not demonstrated that selection and training of panels improves performance—a finding at variance with the prevailing view.

Dr. L. L. Thurstone, Psychometric Laboratory, University of North Carolina, Chapel Hill, presented evidence that a "rational zero point" can be demonstrated, i.e., a point at which the subject neither *likes* nor *dislikes* an object—food, for example.

Work on variables that affect test results by Dr. Carl Pfaffmann, Brown University, indicates that when panel members have immediate knowledge of the results of their efforts, their performance as judges is improved. This is attributed to increased interest. Rinsing the mouth between taste tests has an influence on results, but the value of rinsing in sharpening perception shows much individual variation.

From the Arthur D. Little organization of Cambridge, Massachusetts, Dr. L. B. Sjostrom reported on the "flavor profile method," which is descriptive rather than a measuring device. It yields a record of the intensity of detectable flavor notes in the order of their appearance and has much usefulness in flavor improvement studies.

Dr. Helen Hanson, Western Regional Research Laboratory, U.S.D.A., presented the results of her work with the dilution test method, showing that this method suitably distinguished the relative flavor stability of two types of dried eggs that differed in original flavor and in rate of off-flavor development during storage at elevated temperatures.

It was the consensus of all who participated that the review and criticism of the techniques now in use was well worth while. One by-product of the meeting was informal discussion of ways and means to channel the interest in food acceptance research into the establishment of a permanent organization.

A New Menu Pattern Is Tested[1]

LEONORA MIRONE, Ph.D., and LEO GURR HARVEY[2]

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IN 1943, a pattern for school lunches to be followed in schools participating in the national school lunch program was formulated by the Bureau of Human Nutrition and Home Economics and other technical workers of the United States Department of Agriculture. This pattern, known as the Type A Lunch, is now familiar to many and widely used. In 1952, two-thirds of the million and a half meals served under the national school lunch program were of this type.

The pattern was devised to provide, roughly, one-third of the daily dietary allowance for the median-age child—that is, the child from ten to twelve years—as then recommended by the National Research Council (1). When only this minimum requirement is served to older children, they do not get adequate amounts of the essential nutrients. However, many schools serve older children larger amounts of food than the minimum requirements stated in the pattern.

The requirements of this pattern are:

(a) Two oz. meat or one of the following meat substitutes: 2 oz. cheese; one egg; ½ c. cooked dry peas or beans; or 4 Tbsp. peanut butter.

(b) Three-fourths c. fruit or vegetable.

(c) One serving of whole grain or enriched bread or cereal.

(d) Two tsp. butter or enriched margarine.

(e) One-half pt. whole milk.

Unfortunately, however, even when sufficient quantities have been served, uninformed or careless workers may serve inadequate meals within the Type A lunch pattern.

Research conducted in various sections of the country has indicated that in many instances the school lunches served are nutritionally inadequate in one or more of the essential nutrients. Augustine *et al.* (2), in a study of lunches served on twenty days to 240 children in a rural Iowa school, found that the adequacy of the lunches decreased as the age of the children increased. One-third of the daily dietary allowances as recommended by the National Research Council were met eleven out of twenty times for grades one to three; twice for grades four to six; and no times for grades seven to twelve. Dreisback and Handy (3), in a study of thirty-nine schools in different sections of the nation, showed that lunches were frequently deficient in several nutrients when calculated values were compared with the recommended allowances, even for children from ten to twelve. These findings are in agreement with those of Clayton and Ullman (4), who calculated the nutrients in school lunches of junior high school children in Bangor, Maine. Their results showed the average hot school lunch to be low in calories, iron, and ascorbic acid for girls ages thirteen to fifteen and also in thiamine for boys of this age. This investigation disclosed, however, that school lunches were much more adequate than box or store lunches.

Chemical analyses of school lunches have pointed up the same deficiencies shown by calculation of the dietary components and by examination of the children who ate the lunches. The greatest deficiencies found were in ascorbic acid and thiamine. McMillan and Todhunter (5) reported that only three out of nine meals analyzed contained an adequate amount of ascorbic acid. Research conducted by the Bureau of Human Nutrition and Home Economics (6–8) showed that menus within the standard lunch pattern differed widely in the amounts of certain important nutrients, and that they frequently failed to meet one-third the daily dietary allowance recommended, particularly in ascorbic acid and thiamine. This research showed, however, that blood values for ascorbic acid, calcium, and vitamin A were higher for children having school lunches than for those not receiving school lunches. Scoular and Bryan (9) analyzed lunches served at the Demonstration School of the Texas State Teachers' College for ascorbic acid content and found that an adequate

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[2] The authors are indebted to Eleanor Pryor, State Director, School Lunch Program; Mildred Craig and Josephine Martin, Assistant State Supervisors, School Lunch Program; J. L. Dickerson, Principal, Louise Morton, School Lunch Manager, and the teachers of the Demonstration School for making this study possible.

amount for any age group was furnished on only one out of twenty days.

TENTATIVE NEW PLAN

In view of these and other findings and because of advances in nutrition research, it was considered advisable by the United States Department of Agriculture to re-examine the school lunch menu pattern. A tentative new pattern (10) was devised in late 1952 by the Bureau of Human Nutrition and Home Economics and the technical staff of the Foods Distribution Branch, Production and Marketing Administration. In it, the food requirements approximated one-third of the presently recommended daily allowance (11) for children of various ages, rather than for the median-age child alone. The new plan provides that the following items be served in each lunch:

(a) Protein-rich food served in main dishes, salads, soups, desserts.
(b) Ascorbic-acid-rich fruit or vegetable.
(c) Other vegetable or fruit.
(d) Bread, cereal, or other grain product.
(e) Butter or fortified margarine.
(f) Milk, as a beverage.

These requirements were expressed in terms of amounts of food to be served to each of three grade groups:

Group I—Grades 1 through 4, boys and girls under ten years.

Group II—Grades 5 through 7, boys and girls ten to twelve years, *and* Grades 8 through 12, girls, thirteen years and over.

Group III—Grades 8 through 12, boys thirteen years and over.

In theory, this plan corrected deficiencies of the Type A lunch plan. But would the new plan work in practice? The various state departments of education administering the program within states were requested by the Department of Agriculture to test the new pattern by actual use in schools. The aims of these tests were to ascertain the nutritional quality of lunches conforming to the pattern, the acceptability of lunches planned by this pattern to school children of various ages, and the feasibility of the plan in relation to cost and management.

TESTING THE NEW PLAN

One of the tests was conducted in the Demonstration School of the University of Georgia. The Demonstration School served elementary and high school children in grades one through twelve. The enrollment was over five hundred and a large percentage ate the school lunch. Approximately 50 per cent of the students came from rural areas. The school served only plate lunches. Seconds of some items were served to children requesting them. The facilities and staff of the school were typical of the area, and the administrators and staff were cooperative. Therefore, this school seemed to offer a fair place in which to test the plan.

Detailed guides for menu planning (10) and food purchasing (12) were furnished. In these guides, foods of the six required kinds were listed with amounts to purchase, to prepare, and to serve per person. The amounts were different for each group of children. The manager planned menus, purchases, servings, and work schedules according to instructions in the guides.

EXPERIMENTAL PROCEDURE

The plan was put into effect on February 2, 1953 and was used for twenty consecutive school days, ending on February 27. On the five successive days of the last week of the test, information was recorded on the kinds and amounts of food served, plate waste, and labor cost. During each of the first three weeks of the test, this information was obtained for two days to perfect methods of recording.

Menus were planned for a week at a time. From menus used the first three weeks of the test, five were chosen for use during the last week. These were chosen because they were reasonably popular with pupils, they offered foods which school lunch programs can usually afford to buy, and they allowed accurate purchasing, preparation, and serving. The caloric value as well as the protein, mineral, and vitamin content of each meal were calculated for each group of students.

RESULTS AND DISCUSSION

The number of pupils served lunch in the Demonstration School during the test week is summarized in Table 1. In Table 2 are summarized the amounts and kinds of food served per person in each group daily. The pupils generally liked the meals. The manager used familiar foods, recipes, and combinations, varying the usual menus only to comply with the new plan. However, the variety was less, and there were no cooked desserts because of the difficulty of calculating amounts of nutrients provided by mixed foods. Most pupils reported that they did not miss the desserts since fruit or sweet

TABLE 1

Number of participants

DAY	PARTICIPANTS		
	Group I	Group II	Group III
Monday	203	226	116
Tuesday	201	200	107
Wednesday	200	230	105
Thursday	200	197	105
Friday	200	230	105
Average	200.8	216.6	107.6

potato took their place. Boys and girls in Groups II and III said that during the test, they were not hungry until the next meal time, whereas when they had eaten lunches based on the Type A plan, they had a strong desire to eat immediately after school to keep from being hungry. The fact that lunches served during the test contained larger amounts of protein and smaller amounts of sweets probably accounts in part for the difference in staying quality of the two types of lunches. Omission of soft drinks and candy, foods used to "piece" after school, contributed to a better balanced food pattern.

TABLE 2

Size of servings

ITEM	SIZE OF SERVING		
	Group I	Group II	Group III
Monday			
Black eyed peas	½ c.	¾ c.	1 c.
Turnip greens	⅓ c.	⅓ c.	⅔ c.
Raw apple	¼ c.	½ c.	½ c.
Corn bread	⅔ oz.	1⅓ oz.	2 oz.
Margarine	1 tsp.	1½ tsp.	2 tsp.
Milk	½ pt.	½ pt.	½ pt.
Tuesday			
Hamburger	2 oz.	3 oz.	4 oz.
Baked sweet potato	4 oz. (1 small)	4 oz. (1 small)	1 large
Green beans	¼ c.	½ c.	½ c.
Buns	1 oz.	2 oz.	3 oz.
Margarine	1 tsp.	1½ tsp.	2 tsp.
Milk	½ pt.	½ pt.	½ pt.
Wednesday			
Cheese	2 oz.	3 oz.	4 oz.
Grapefruit	¼ c.	¼ c.	½ c.
Green Lima beans	¼ c.	½ c.	½ c.
Loaf bread	1 oz.	2 oz.	3 oz.
Margarine*	1 tsp.	1½ tsp.	2 tsp.
Milk	½ pt.	½ pt.	½ pt.
Thursday			
Ham	2 oz.	3 oz.	4 oz.
Sliced tomato	1 small	1 small	1 med.
Mashed potato	¼ c.	½ c.	½ c.
Hot rolls	1 oz.	2 oz.	3 oz.
Margarine	1 tsp.	1½ tsp.	2 tsp.
Milk	½ pt.	½ pt.	½ pt.
Friday			
Beef hash	2 oz.	3 oz.	4 oz.
Orange	½ small	½ med.	½ med.
English peas and carrots	¼ c.	½ c.	½ c.
Loaf bread	1 oz.	2 oz.	3 oz.
Margarine†	1 tsp.	1½ tsp.	2 tsp.
Milk	½ pt.	½ pt.	½ pt.

* The calculated margarine was added to the Lima beans.

† The calculated amount of margarine was added to the English peas and carrots.

Teachers reported that the first and second grade children did not waste as much food under the new plan with controlled servings as they had under the old plan. Waste, however, was excessive for grades 3 and 4 and for all of Group II.

As a result of the arbitrary classification by grades into three groups, the fourth grade pupils, particularly the boys, did not receive sufficient quantities of food. This may also have been true of the sixth and seventh grade boys. Need for further study is indicated in the method of dividing pupils into groups.

The principal advantage of the new plan as compared to the Type A plan was that the nutritional needs of the children were more nearly met. Ascorbic acid, known to be low in many school lunches, was furnished daily by an ascorbic acid-rich food. Protein, thiamine, niacin, and iron, which studies have shown to be frequently low in school meals, were furnished in adequate amounts. The caloric value of the meals was within the recommended allowances.

Since, however, the required amounts of protein foods did not result in comparable amounts of protein by weight for each food, the new plan should be revised to meet this need. For example, a 4-oz. hamburger furnished 20.6 gm. animal protein, whereas 1 c. cooked, black eyed peas furnished only 11.4 gm. vegetable protein.

The amounts of foods served and the amounts and percentage of waste are summarized in Table 3. Although with the new plan, Group III (eighth to twelfth grade boys) were served twice as much food as with the Type A lunch, the percentage of waste for this group was less than for Group I and for Group II. This finding indicates a real need in the case of older boys for larger amounts of food than those stated for the Type A plan. Interestingly, there was less waste of milk than of any other food served. This may indicate that good teaching has made milk a familiar and well liked food in this school. On the other hand, the waste in margarine was high for all groups. This waste could be eliminated to some extent by serving a portion of the required amount in prepared food rather than as margarine *per se*.

Of the vegetables served during the test week, the waste was highest for turnip greens and least for mashed potato. The high waste for turnip greens was surprising, since they are the favorite green leafy vegetable in this area. Likewise of the breads served, cornbread was the least acceptable despite the fact that it is the usual bread served with vegetables in this section. Oranges were accepted better than other fruits served and hamburger better than any of the other protein-rich foods.

As shown in Table 3, the average total waste was 24.72, 24.72 and 17.22 per cent, for the three groups

respectively. In view of this excessive waste, foods high in protective nutrients should be served to insure adequate intake of the essential nutrients. Also, since it appears that certain foods are generally disliked, food prejudice studies for each school would have a twofold effect: reduction in food waste and a basis for education of the children relative to the nutritive value of the disliked foods.

The average cost of food purchased was 22.1 cents per meal during the test week as compared with 18.1 cents for the period of September, October, and November 1952 (both figures exclude direct distribution foods). The fall months were chosen as a period in which to obtain the average cost prior to the test because they had been uninterrupted by holidays and influenza. The higher food cost was the result of the larger amounts served, particularly of the expensive protein foods.

TABLE 3
Food waste

ITEM	GROUP I			GROUP II			GROUP III		
	Amount served	Amount wasted	Percentage of waste	Amount served	Amount wasted	Percentage of waste	Amount served	Amount wasted	Percentage of waste
Monday									
	lb.	*lb.*		*lb.*	*lb.*		*lb.*	*lb.*	
Black eyed peas	50¾	17¾	34.98	84¾	33⅓	39.33	58	6½	12.07
Turnip greens	33⅝	24¼	71.68	37⅔	24	64.29	38⅔	24½	63.37
Raw apple	25⅜	3	11.82	56½	12	21.24	29	4¼	14.65
Corn bread	8½	4½	52.94	18⅝	8¾	46.47	14½	5½	37.93
Margarine	2⅛	1¼	58.69	3½	1¾	50.00	2⅕	½	22.73
Milk	109⅐	2¾	2.52	121½	7¾	6.38	62⅖	0	0
Average			38.77			37.95			25.13
Tuesday									
Barbecued hamburger	25⅛	5	19.90	37½	2½	6.66	26¾	1½	5.61
Baked sweet potato	50¼	3⅜	6.73	50	11½	23.00	35⅔	6½	18.23
Green beans	25⅛	8¼	32.83	50	25	50.00	26¾	9¼	34.58
Buns	12⅗	3	23.81	25	4½	18.00	20 1/16	1¾	8.72
Margarine	2⅛	¾	35.21	3⅛	¾	23.96	2¼	¾	33.33
Milk	108⅛	1¾	1.62	107½	4½	4.19	57½	½	0.87
Average			20.02			20.97			16.89
Wednesday									
Cheese	25	4½	18.00	43⅛	14	32.46	26¼	3¾	14.29
Grapefruit sections	25	4	16.00	28¾	10½	36.52	26¼	5	19.04
Green Lima beans	25	6¾	27.00	57½	12	20.87	26¼	3	11.43
Loaf bread	12½	1¾	14.00	28¾	4½	15.65	19⅗	1¾	8.92
Margarine*	2 1/12	—	—	3½	—	—	2⅙	—	—
Milk	107½	2½	2.33	123¾	6¾	5.46	56¾	¼	0.44
Average			15.47			22.19			10.82
Thursday									
Ham	25	8¼	33.00	43⅛	14	32.46	26¼	7½	28.57
Sliced tomato	57⅐	7½	13.13	65⅖	13	19.78	42	7	16.66
Mashed potato	25	2½	10.00	57½	7¼	12.61	26¼	1¼	4.76
Hot rolls	12½	2	16.00	28¾	1¼	4.34	19¾	¾	3.80
Margarine	2 1/12	1¼	60.01	3⅝	1¼	34.44	2¼	¾	33.33
Milk	107½	2¼	2.09	123¾	7¼	5.86	56¾	0	0
Average			22.37			18.25			14.52
Friday									
Baked beef hash	25	19¼	77.00	37	23	62.16	26¼	17¾	67.62
Orange	33⅓	2¼	6.75	49¼	7½	15.23	26¼	¾	2.86
English peas and carrots	25	9	36.00	49¼	14	28.43	26¼	5½	20.95
Loaf bread	12½	1½	12.00	24⅝	1½	6.09	19¾	¼	1.27
Margarine†	2 1/12	—	—	3 1/12	—	—	2¼	—	—
Milk	107½	3¼	3.02	106	9¾	9.20	56¾	½	0.88
Average			26.95			24.22			18.72

* The calculated amount of margarine was added to the green Lima beans.
† The calculated amount of margarine was added to the English peas and carrots.

The cost of labor was the same for the two periods, although each worker performed more work during the test month. However, if the new plan were put into effect, labor cost would be higher because it would be necessary to employ more labor or to pay the same number of workers for longer hours. It would also be necessary to add some equipment and to provide additional work space to prepare regularly the larger amounts of food.

With the new plan, the manager was enabled to calculate exactly the amounts of food to be purchased to serve the amounts directed. She felt a satisfaction in use of the more accurate purchasing guides. However, management generally and training of workers, especially supply workers, become more difficult with the use of the new plan. The planning of menus and purchases for three groups instead of one consumed more time. Also, planning for dishes furnishing two required foods, as macaroni and cheese, fruit cobbler, or two proteins in a meal required so much calculation that the manager tended to avoid such dishes, which restricted variety, compatible combinations, and certain economies. The manager's time for supervision of food preparation during the serving period was greatly curtailed, because she had to watch the serving to insure correct portioning, even though charts were posted as guides and scoops were labeled as to size. Devising simple but complete guides and very simple suggestive menus, and standardizing recipes might eliminate some of the management problems encountered.

Since the new plan is a step forward in safeguarding the health of our children through better nutrition at school, every effort should be made to correct its shortcomings and to implement it at an early date. World War II definitely established the fact that our young men were not as physically fit as we were prone to believe. No cost is too great if it results in vigorous and productive adulthood.

CONCLUSIONS

The proposed school lunch menu plan more nearly meets the nutritional needs of the school children, especially in calories, protein, thiamine, and ascorbic acid.

The cost will be higher due to increased food and labor cost.

The food waste tended to be excessive, particularly in the case of third through seventh grade pupils of both sexes and the girls from eighth grade through high school. Food prejudice studies should be made in each school in an effort to eliminate some waste.

Further study is needed in the method of dividing pupils into groups.

The teachers and school lunch manager must, together, educate the children to accept all foods.

Milk was the best accepted food; turnip greens were least acceptable.

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Cheese

The history of cheese goes back at least 4000 years, according to George P. Sanders, U.S.D.A. dairy research specialist. Cheese was made and eaten in Biblical times. Travelers from Asia are believed to have brought the art of cheesemaking to Europe and the Romans introduced it in England. The Pilgrims included cheese on the Mayflower.

Until the middle of the last century, cheesemaking was a local farm industry in the U.S. Housewives made cheese from the surplus milk produced on the farm. In 1851 the first cheese factory in the U.S. was built near Rome, New York, and nearby Herkimer County remained the center of the cheese industry in this country for the next fifty years. The industry gradually moved westward, centering in the rich farm lands of Wisconsin.

Fresh vs. Pre-Processed Vegetables

Comparative Cost and Availability[1]

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VEGETABLES claim an appreciable sum in the budget of the average food service institution. To obtain the greatest value in quality and cost, the food service manager may choose between fresh vegetables, which require considerable preparation, and those pre-processed by commercial firms and ready for cooking.

High labor rates have sharpened the interest in ready-to-cook vegetables. The need to produce food in very compact kitchens has added to this interest.

A study was made comparing fresh and pre-processed vegetables as a help in guiding the judgment of institution food buyers. The study included an analysis of cost and quality of fresh and pre-processed vegetables. Quality factors such as flavor, color, and texture were considered. Cost analysis included cost of material, labor in preparation, and equipment expense.

METHOD OF PROCEDURE

Vegetables were selected for study which are available both in fresh and pre-processed form and which are commonly used in institutions. These included: carrots, broccoli, spinach, peas, onions, and potatoes. Fresh vegetables of uniform high quality were used throughout the study. Frozen vegetables of Grade A quality were purchased. Dehydrated onions and pre-peeled potatoes were of high quality but did not have government grade certification.

Wholesale prices of the fresh vegetables in the Seattle market were taken from fruit and vegetable reports of the United States Department of Agriculture's Production and Marketing Administration. These prices were averages of those occurring on each Wednesday for the year 1952. Prices of pre-processed vegetables were obtained from wholesale food purveyors in Seattle for the same period. The price selected was for the quality and the quantity package used in institutions. Prices were averaged and the price per pound calculated.

The current wage rate established for vegetable preparation in Seattle is $9.35 for a 7½-hr. day (1); this rate was used for calculations in this study.

The percentage of trimming loss and the time of preparation used were obtained from records at the University of Washington Commons. Studies have been made elsewhere of trimming losses in fresh vegetable preparation which show wide differences. Figures of the Commons were checked with those of the U.S.D.A. (2) and found to be comparable, taking into consideration the differences in labor and materials. There is a general agreement in the studies of Clare (3), Goodenow (4), Quast (5), which corroborate the University of Washington data on preparation time of vegetables.

Total cost for each vegetable, including both material cost and labor cost, was determined. The vegetable, fresh and pre-processed, was considered comparatively as to availability, price range over a one-year period, economics of use, and quality.

A survey was taken in the Seattle area of current practices in institution kitchens as to the use of pre-processed vs. the fresh vegetables. Data were obtained through personal interview with food service managers of representative institutions during March, 1953. Cooperating institutions included a college dining service, the public school lunchrooms, a hospital food service, a commercial food service, and a department store food service. Information was obtained as to items used, labor employed for vegetable preparation, equipment required, and space allowed for vegetable preparation.

Palatability characteristics of flavor, color, and texture were scored by six judges using a scale of 0 to 3 score, with 3 high. Judges were dietitians of the food management staff at the University of Washington and graduate students in institution management.

Fresh and pre-processed vegetables were cooked at the same time for scoring.

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TABLE 1

Comparative cost of fresh and pre-processed vegetables

VEGETABLE	UNIT OF PURCHASE	SIZE OF SERVING	SERVINGS PER PURCHASE UNIT	COST				
				Range, A.P.	Average E.P.	Labor	Total	
							Per Pound	Per Serving
	lb.	*oz.*		*cents/lb.*	*cents/lb.*	*cents/lb.*	*cents*	*cents*
Broccoli								
Fresh	1	3	3	10 –15	15.7	5.2	20.9	6.9
Frozen	2	3	10½	22 –23.5	22.8	—	22.8	4.4
Carrots								
Fresh (without tops)	1	3	5	3.7– 9.3	8.1	1.7	9.5	1.9
Frozen	5	3	26	10 –11	10.5	—	11.0	2.0
Onions (used in prepared dishes, stew, soups, etc.)								
Fresh	1	4	4	5.2–11	8.1	3.9	12.0	3.0
Dehydrated	#10 can, 28 oz.*	4	74.4	8.5	8.5	—	8.5	2.1
Peas								
Fresh (in pods)	1	3	2	9.5–23	25.2	8.6	33.8	16.9
Frozen	2½	3	13	19 –20	19.5	—	19.5	3.7
Potatoes								
Fresh	1	4	3	3.6– 6.3	5.9	0.7	6.6	2.2
Pre-peeled	60	4	180	10.5	10.5	—	10.5	3.5
Spinach								
Fresh	1	3	4	6.2– 9.6	10.5	4.1	14.6	3.7
Frozen	3	3	16	14 –16	15	—	15.0	2.8

* 1 c. is equivalent to 1 lb. fresh; 1 c. weighs 1½ oz.

RESULTS AND DISCUSSION

Availability of Fresh Vegetables

Fresh broccoli was not available in the Seattle area in July and August.

Fresh green pod peas were in very limited supply during November, December, and January.

Trimming Waste and Preparation Time

Broccoli. Average percentage of waste on fresh broccoli was 39 per cent. The per-pound time required for preparation averaged 2.60 min. Average cost per pound, including the labor, was 20.9 cents.

Carrots. Average waste for fresh carrots was 12 per cent. Required preparation time was 0.849 min. per pound of fresh carrots, purchased with tops off. Preparation consisted of peeling in the potato peeler and hand finishing.

Onions. Average waste on fresh onions was 6 per cent. Preparation time was 1.945 min. per pound. Preparation consisted of peeling and cutting by hand.

Peas. Waste in preparing fresh peas averaged 60 per cent. Preparation time, which consisted of shelling by hand, was 4.3 min. per pound.

Potatoes. Waste in preparing potatoes was an average 16 per cent. Preparation time per pound was 0.37 min., using the mechanical potato peeler.

Spinach. Average trimming waste was 31.8 per cent. Preparation time, including trimming and washing, averaged 2.084 min. per pound.

Summarized data comparing total cost are presented in Table 1.

Palatability

Quality scores for the vegetables studied were made by six judges. Their opinions are presented in Table 2.

Broccoli. Frozen was preferred over the fresh broccoli for color, texture, and flavor.

Carrots. Fresh carrots were rated excellent on color, texture, and flavor. Frozen carrots had an excellent color and good flavor, but were scored low on texture, which was soft and watery. Thus fresh carrots were preferred.

Onions. Dehydrated onions, when rehydrated, appeared less white than the fresh onions. They could not be used successfully for replacement of raw onion, but were suitable in cooked dishes such as stews, soups, and sauces.

Peas. Fresh peas were scored lower on flavor and texture than frozen peas. Fresh peas lacked uniformity in size, color, and texture.

Potatoes. Pre-peeled potatoes were whiter in color. The antioxidant used to prevent discoloration no doubt yields this beneficial effect.

Spinach. There was no significant variance in acceptability of spinach, whether frozen or fresh, for flavor and texture. Frozen spinach had a stringy characteristic because of the amount of stem left on the leaf.

TABLE 2

Quality scores of fresh vs. pre-processed vegetables*

VEGETABLE	SCORES		
	Quality	Texture	Color
	points	*points*	*points*
Broccoli			
Fresh	2	2	2
Frozen	2+	2+	2+
Carrots			
Fresh (without tops)	2	3	2+
Frozen	1+	1	3
Onions			
Fresh	2+	2+	2+
Dehydrated	1+	2	1
Peas			
Fresh (in pods)	2	2	2+
Frozen	2+	2+	3
Potatoes			
Fresh	2+	2+	2
Pre-peeled	3	2	3
Spinach			
Fresh	2+	2+	3
Frozen	2	2	2

* Scale of 1 to 3 used: excellent = 3; good = 2; poor = 1.

PRACTICES IN INSTITUTIONS

Public schools seldom use broccoli in the lunchroom because of its unfamiliarity to many children. College, commercial, and department store food services all reported using frozen broccoli. Fresh broccoli was used by the college food service at the peak of the season. Commercial and department stores with limited areas in the kitchen found it impractical to use bulky fresh broccoli even at this time, because of the clutter in the kitchen. Storage of the large crate and preparation time (cleaning) were other reasons for not using fresh broccoli.

All of the buyers cooperating in this study used fresh carrots. They were preferred for portion cost, availability, flavor, and color.

College dining halls were the only cooperating institutions where dehydrated onions were used. Ease of handling and lack of mess in preparation were factors that made their use in the kitchen desirable for dishes such as soups, meat stews, and casseroles.

The hospital food service used fresh pod peas at the peak season when the price was low.

Fresh potatoes were used by the majority of institutions, although the hospital food service used pre-peeled potatoes at various times. All buyers had tried pre-peeled potatoes and were satisfied with the quality. The institutions' present investment in a potato peeler and established employee schedules prevent the potatoes from being an economical buy.

Institution buyers preferred frozen spinach for year-round use. Public school, college, hospital, and department store food services used fresh spinach when the local supply was plentiful and prices low enough to warrant the cost of labor for preparation. A limited preparation area in the commercial food service and present schedules of personnel prevented the manager's using fresh spinach.

The comparative cost per serving of fresh and pre-processed vegetables is shown in Table 1.

Space Allowance and Equipment Investment

Space devoted to vegetable preparation varied from 33 to 126 sq. ft. Menu variety and space devoted to customer seating were factors contributing to the variation. Fewer vegetables requiring preparation were used in the commerical restaurant because as much space as possible is usually devoted to customer seating, and preparation space in high-rent areas is kept at a minimum.

A two-compartment sink with drain board was standard equipment and used for other purposes besides vegetable preparation. For hand finishing, such as cutting and dicing, a 6-ft table was used. This equipment was all dual-purpose and could not be considered an investment for vegetable preparation alone.

All the institutions cooperating in the survey had a potato peeler which was used for both potato and carrot preparation.

Survey data revealed that refrigerator storage space was too limited and did not have correct holding temperatures for proper storage of frozen vegetables. Storage for pre-processed vegetables was inadequate, too, making it necessary to use them immediately in order to prevent deterioration. This tends to put pre-processed vegetables in the same class of perishables as fresh vegetables. Without adequate storage facilities, one of the advantages of pre-processed products is lost.

CONCLUSIONS

Study of the cost of six vegetables in pre-processed and fresh form showed that it is more economical to use broccoli, peas, onions, and spinach in the pre-processed form, due to the cost of labor in preparation. The diced carrots and pre-peeled potatoes were the pre-processed vegetables which were more expensive than fresh in Seattle.

Ratings of quality, as judged by a professional tasting panel, showed the pre-processed vegetables to be more uniform in quality. Frozen broccoli and peas were preferred over fresh; fresh carrots, onions, and spinach were preferred over pre-processed; fresh and pre-peeled potatoes showed insignificant differences in quality rating.

When labor, space, and equipment costs are high, pre-processed vegetables tend to replace fresh.

Food cost per portion of pre-processed vegetables can readily be calculated, due to freedom from

seasonal price fluctuation and variation in preparation waste.

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Dog Days in Nutrition

Writing in a recent issue of *Bulletin for Medical Research*, Dr. Clive McCay of Cornell University, reflects on the progress in the science of nutrition brought about by experiments and investigations involving dogs. Excerpts of this recapitulation follow.

1816—Francois Magendie, the French physiologist, reported that dogs thrived on a diet containing meat, but failed on diets where gelatin supplied the protein. This marked the beginning of recognition that proteins differed in quality.

1816—Magendie found that dogs remained in much better health when fed breads made of whole grains than when fed breads made with white flour.

1828—The one little dog of Woehler at Heidelberg was used for the first careful studies of metabolism and excretion of combined benzoic acid, found by Liebig as hippuric in 1829.

1844—F. Muller published his famous study on the composition of the feces. Studies of the excreta of his experimental dogs provided basic information for all sufferers from constipation. After more than a century, this information still has great value.

1849—Verdeil described experiments where dogs fed a vegetarian diet had less red blood than dogs fed some meat, the start of our knowledge about iron, vitamin B_{12}, and other factors in treating anemia.

1869—Menzel and Perko laid a background for intravenous feeding of human patients by injecting various foods into dogs. They gave special attention to food rich in lipids, such as egg yolk, milk, and cod-liver oil.

1869—Studies of Voit and Bauer with dogs upon absorption of nutrients from the large and small intestine laid a new basis for rectal feeding of patients.

1875—T. Escher published evidence that there were essential amino acids that the animal body could not make. He and his physiology professor, Hermann, also published the now hackneyed analogy between the way proteins are constituted of amino acids and words made from letters of the alphabet. Escher's publication lies embalmed in the local Zurich natural history journal. Even Swiss scientists know nothing of Escher's life.

1889—Hoffmeister found great differences in the rate of absorption between lactose and other common sugars such as sucrose. This laid a background for much useful knowledge about utilization of sugars in men and animals.

1889-90—Knowledge of nutrition for diabetics advanced rapidly after the experiments of Von Mering and Minkowski were reported. They produced diabetes by removing the pancreas from dogs.

1894—Felippi found that little fat was absorbed after the small intestine was removed from a dog, improving our knowledge of fat utilization and absorption.

1906—The first edition of *The Science of Nutrition* by Graham Lusk appeared. From the first to last edition in 1928, the work indicated the close relation between canine and human nutrition.

1915—Graham Lusk found that the amount of exercise to which a dog was accustomed influenced its basal metabolism.

1917—Chittenden and Underhill studied black tongue in dogs and stressed the importance of such studies since black tongue was caused by the same deficiencies that produced pellagra.

1925—Mellanby published extensive reports on rickets in dogs, advancing knowledge useful in preventing this disease in both children and animals.

1925—Whipple and associates published a long series of studies with dogs, showing importance of diet in the treatment of anemia.

1938—Mellanby, from his studies with dogs, published his report on experimental deafness from feeding diets deficient in Vitamin A and rich in cereals.

1946—Mellanby found that the ordinary white flour widely used in America and treated with nitrogen trichloride produced a form of epileptic fit in dogs. This led to the abandonment of this method of treating flour in America after twenty-five years of such treatment.

Nutritive Value of Low-Income Families' Diets

Suggestions for Improvements[1]

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FROM 1946 to 1948 the Canadian Red Cross Society financed a comprehensive study (1), under the direction of the late Dr. F. F. Tisdall, of the effects of a nutritionally excellent school lunch on the growth, health, and mental development of 300 children. A corresponding number of matched control children ate their lunches at home. As part of this study, five surveys of the foods used in the homes of approximately one-third of these families were carried out each November and May, primarily to show whether the eating habits of the families whose children received the free lunch were altered as a result. A preliminary analysis showed that there was no appreciable difference between the food buying habits in the homes of the children receiving the lunch and of the controls. Therefore, in the present study, the records from all the families at each survey have been grouped together and analyzed. In addition, methods are suggested whereby these families could improve their food buying with the minimum of expenditure.

The City Department of Health of Toronto arranged to have a number of public health nurses visit the homes shortly before the first survey was undertaken. They filled in a detailed questionaire regarding the economic and social status of the families and classified the homes as poorest, fair, and best. Practically all of the families had moderately low incomes, the average income of the poorest homes being $1780 per year and that of the best about $2150. We were unable to obtain further data on incomes, but figures obtained from the Dominion Bureau of Statistics showed that from 1946 to 1948 the increases in wage rates more than kept pace with the increased cost of living, although they were exceeded by the rise in the cost of food.

Rents in the district, which was an old part of the city, averaged only 18 per cent of the income, although in other, better sections of the city the rents usually required at least 25 per cent of the families' earnings. The families varied in size from 2 to 14 persons—the average being 5.5. At the beginning of the survey, all families included children from 5½ to 10½ years of age. On the average, the families were spending about 44 per cent of their incomes for food. The costs of the weekly diets of the families whose children ate their noon meals at home increased from an average of $18.55 in November 1946 to $22.85 in November 1948. The Visiting Homemakers' Association of Toronto reports (2) that minimum-cost, adequate diets for families of this average size could have been obtained for approximately $15.35 in November 1946 and $19.45 in November 1948.

Sixty per cent of the parents were Canadian born and slightly over 10 per cent were of other British origin. The remainder were either French-Canadians or had been born in Europe. Approximately 8 per cent had come from the Mediterranean area.

SURVEY METHODS

A record of all the foods bought and eaten by the family for one week was kept by the mother under the direction of a specially trained field worker. On

[1] Assisted with funds allocated by the Province of Ontario under the National Health Grants' programme of the Department of National Health and Welfare, Ottawa. Presented by Patricia J. Hames in partial fulfillment of the requirements for the degree of Master of Arts. Surveys were carried out under the direction of Rosamund Stevenson, with the assistance of Ellen Porter, Frances Service, Margaret Fasken, and others. Received for publication May 28, 1953.

the first day of the survey week, the worker, with the help of the mother, took an inventory, using scales where necessary, of the staple foods and of the perishable foods if they constituted more than two servings. From then on, except for a relatively few items, such as some fresh vegetables, fruits, and baked goods, all the food was recorded by weight. When not bought by weight, the approximate weight was calculated by means of food tables from the cost and the number of servings provided. If the food was a gift, its cost was estimated, and this was added to the weekly food expenditure. The menus, the methods of preparation, and the recipes for mixed dishes were listed. Food for pets or given away was subtracted both from the cost and the edible portion. The field worker visited the mother daily to check her records. On the eighth day all remaining food was recorded in the closing inventory. These amounts, subtracted from the amounts of food on hand at the beginning and bought during the week, gave the amounts consumed during the week. No attempt was made to study individual intakes, but the age, sex, occupation, and condition (pregnancy or lactation, for example) of each member of the family were listed. All records were carefully checked by experienced home economists.

Five surveys were made at intervals of six months from November 1946 to November 1948. The total number of records obtained over the two-year period was 1030 divided among the five surveys as follows: November 1946, 257; May 1947, 214; November 1947, 193; May 1948, 200; and November 1948, 166. Seventy-five families completed five surveys, 61 completed four, 57 completed three, 60 completed two; and 120 completed one. As far as the authors are aware no previous studies on family food consumption have included so many surveys on the same families.

A preliminary test on a few families showed that they were apparently obtaining adequate amounts of vitamin A and carotene. Previous surveys (3–13) have shown that Canadian and American diets are often relatively low in some or all of the following: calcium, thiamine, riboflavin, and ascorbic acid. Therefore, the family intakes of these four nutrients were calculated according to the method and table of Donelson and Leichsenring (14). A few of the figures in this table were replaced by those obtained in well-checked Canadian analyses (15–18). Changes were made to correspond to Canadian weights and measures and in a few cases the "weighting" in a group of foods was altered because of the local meal patterns. For the table used, see Tisdall *et al.* (1).

The 1948 Recommended Dietary Allowances of the Food and Nutrition Board of the National Research Council (19), were used to evaluate the diets. The allowances for calcium, thiamine, riboflavin, and ascorbic acid were calculated for each family member, taking into consideration age, sex, occupation and condition. From this, the weekly total recommended for each family was computed for each survey. The number of persons, including guests, at each meal had been recorded and corrections were made for guests and for meals eaten outside the home from other than home food when these exceeded 5 per cent of the total meals per family per week. All other meals were counted as being eaten by the persons concerned. Foods bought to supplement home-made lunches eaten away from home were counted in the family food record. The amounts deducted from the recommended allowances for the calcium, thiamine, and riboflavin in breakfasts, lunches, and dinners when these meals were eaten away from the home were $\frac{1}{6}$, $\frac{1}{3}$, and $\frac{1}{2}$, respectively. Four-fifths of the recommended allowance for ascorbic acid was deducted for breakfasts and $\frac{1}{10}$ each for lunches and dinners bought outside the home. Actually, the families nearly always ate their breakfasts at home. The children from 48 per cent of the families received the Red Cross lunches. In computing their families' recommended allowances, the above deductions were made for all these lunches that these children ate.

RESULTS

Having set up this standard of comparison, the families were arbitrarily divided into four groups as follows: (a) excellent: those that met or exceeded the recommended allowances; (b) good: those obtaining 80 to 99 per cent; (c) fair: those obtaining 50 to 79 per cent; and finally, (d) poor: those obtaining less than 50 per cent. The results of this comparison for the four nutrients are shown in Table 1. The figures are given in per cent of the total families in each survey. From this table it can be seen that on the average, slightly less than 25 per cent of the families obtained excellent intakes of calcium and thiamine. The number of families receiving excellent amounts of riboflavin and ascorbic acid was considerably higher, averaging 60 per cent and 40 per cent respectively. There was a general, but gradual decrease in the number of families obtaining excellent amounts of all four nutrients in the later surveys.

Calcium Intake

In the fourth and fifth surveys, there was a gradual fall in the percentage of families obtaining excellent amounts of calcium and a corresponding rise in those receiving lesser amounts. The best sources of calcium in a diet are milk and cheese, and if about 70 per cent of the recommended allowance of calcium is supplied by these foods, the diet will be excellent in this nutrient (20). In Table 2 is shown the percentage of the Recommended Dietary Allowance for calcium obtained by these families from milk. On the

TABLE 1

Intakes of calcium, thiamine, riboflavin, and ascorbic acid in terms of per cent of Recommended Dietary Allowances (19)

DATE OF SURVEY	PER CENT OF FAMILIES RECEIVING			
	Poor (Less than 50% of allowances)	Fair (50–79% of allowances)	Good (80–99% of allowances)	Excellent (100% or over of allowances)
Calcium				
November 46	4	40	29	27
May 47	5	38	32	25
November 47	4	40	30	26
May 48	5	39	33	23
November 48	7	42	33	18
Average...	5	40	31	24
Thiamine				
November 46	0	37	35	28
May 47	1	37	35	27
November 47	1	35	41	23
May 48	0	42	40	18
November 48	1	49	34	16
Average...	1	40	37	22
Riboflavin				
November 46	0	9	22	69
May 47	1	11	26	62
November 47	1	16	21	62
May 48	0	16	30	54
November 48	0	19	30	51
Average...	0	14	26	60
Ascorbic Acid				
November 46	9	23	17	51
May 47	8	23	19	50
November 47	10	32	24	34
May 48	10	38	14	38
November 48	13	29	30	28
Average...	10	29	21	40

average, 27 per cent of the families received 70 per cent or more of their recommended allowance from milk alone, which checks quite well with the number of families that had excellent calcium intakes.

Between the third and fourth surveys, the price of whole milk rose from 16 to 18 cents per quart, which in Canada contains 40 fluid ounces. This rise apparently caused little effect until the fifth survey when there was a drop in the percentage of families obtaining 70 per cent or more of their calcium from milk. This drop was paralleled by a rise in the number of families receiving 50 to 69 per cent of their calcium from milk (Table 2).

Few of the families were using even small amounts of fluid skim milk, costing first 11 and later 13 cents per quart (Table 3). None were using dried skim

TABLE 2

Amount of Recommended Dietary Allowance of calcium obtained from milk

SURVEY	PER CENT OF FAMILIES RECEIVING				
	10–29% of allowance	30–49% of allowance	50–69% of allowance	70–99% of allowance	100% or more of allowance
November 46	4	31	36	24	5
May 47	5	32	33	26	4
November 47	6	30	34	26	4
May 48	4	30	39	24	3
November 48	6	31	44	17	2
Average...	5	31	37	24	3

TABLE 3

Use of fluid skim milk

DATE OF SURVEY	FAMILIES USING SKIM MILK	AVERAGE WEEKLY CONSUMPTION
	%	*qt.*
November 46	1	4
May 47	3	2
November 47	3	7
May 48	4	6
November 48	6	5

milk. However, many were spending considerable amounts on sweet bakery products, canned soups, and potato chips, all of which are nutritionally relatively poor and expensive foods. On the average, 59 per cent of the families were spending over 6 per cent of their food money on these three inferior foods, and in thirty-six of the records as much as one-sixth to one-third of the total food budget was so expended. By reducing or eliminating expenditures on these three items and by buying some or all of their milk as fluid skim milk, 88 per cent of the families who were not meeting their calcium allowances could have done so without added expense. By buying dried skim milk, 11 per cent more could have achieved this objective. Only 1 per cent would have had to increase their food budgets.

Some frugal housewives are now using dried skim milk exclusively. It can easily be mixed by shaking, and after refrigeration overnight, is almost indistinguishable from pasteurized fluid skim milk.

Although 75 to 85 per cent of the families were buying some cheese, the average intake per person per week was only about 1½ oz. The more extensive use of Cheddar cheese might well be encouraged. As a source of calcium, it costs approximately three-quarters as much as pasteurized whole milk (20). It is also a cheaper source of excellent proteins than either fluid whole milk or meat.

Thiamine Intake

The families who obtained excellent amounts of thiamine showed a gradual drop from 28 to 16 per

cent, in the course of the surveys (Table 1). This drop was paralleled by a rise of 12 per cent in the families receiving fair intakes. During the two years of this study, meat and eggs doubled in price, and bread, rolled oats, and butter increased about 25 per cent. The price of fruits and vegetables remained practically unchanged.

The more generous use of whole grain cereal or flour products, lean pork, fruits, vegetables, and milk would have increased the thiamine intake of these families considerably. Eighty-one per cent were receiving less than 10 per cent of the allowances for thiamine from whole grain cereal and flour products, whereas 86 per cent obtained from 10 to 24 per cent of their allowances from refined cereals and cereal products. In other words, the families were eating large quantities of these refined cereal products. If, instead of the refined products, whole grain cereals and bread had been substituted, at least three times as much thiamine would have been obtained.

Since February 1953, enriched white flour and bread has been available. This provides a more popular substitute for 100 per cent whole wheat bread and flour. However, only two precooked cereals with thiamine added are on our market.

Let us now examine how our recommendations would affect the total intake of thiamine. Twenty-two per cent of the families were already receiving excellent thiamine intakes; naturally no change is suggested for them. However, by substituting whole grain or enriched cereal products for the refined ones, another 49 per cent could have had excellent intakes. Fourteen per cent more, by buying enough additional milk to meet their calcium allowances and by using whole grain or enriched products, could have had excellent intakes. Rolled oats, the best of the whole grain cereals in thiamine, is as cheap or cheaper than any other cereal, and enriched bread costs no more than ordinary white bread. Therefore, these changes would entail no additional expense.

This leaves only 15 per cent of the families who, even after replacing all of the refined cereal products by whole grain or enriched ones and after meeting their calcium allowances by using more milk, would still need to buy more thiamine in their foods. How could they do this without spending more money? With careful buying, sufficient meat and poultry could be obtained with approximately 25 per cent of the food budget. As 31 per cent of the families already spent more than this percentage on meat and poultry, the use of cheaper cuts would have allowed more money for other foods, such as fruits and vegetables which add good amounts of thiamine, without the need in many cases of increasing the total food budget. Also, the more frequent use of lean pork instead of the other types of muscle meat and poultry would have improved the thiamine intake of all the families, especially those who were already spending less than one-quarter of their food budget on meat.

Riboflavin Intake

Over the two-year period there was a moderate decline in the number of families with excellent intakes of riboflavin (Table 1). If milk is used in amounts sufficient to supply 70 per cent of the recommended allowance for calcium, this same amount of milk should supply over 60 per cent of the allowance for riboflavin (20). As a matter of fact, it provided even more riboflavin, because although only 27 per cent of the families (Table 2) obtained more than 70 per cent of their calcium from milk, 40 per cent received 60 per cent or more of their riboflavin allowance from it.

Since about three-quarters of the families needed to buy more milk to make their calcium intakes meet recommendations, the amount of riboflavin obtained from this additional milk would have increased correspondingly. Also, by using whole grain or enriched flour and cereal products which contain at least twice as much riboflavin as their refined counterparts, the riboflavin consumption would have been further increased. These two changes would not increase the food budget.

In the first survey (Table 1), 69 per cent of the families obtained excellent amounts of riboflavin, but only 27 per cent did as well for calcium. This apparent discrepancy may have been due to the fact that about 40 per cent of the families ate liver during the week of the first survey. The use of liver declined from then on—only approximately one-quarter of the families ate it during the fourth and fifth surveys. No doubt one reason for this was the fact that beef liver had doubled in price between November 1946 and 1948.

Ascorbic Acid Intake

Ascorbic acid intake showed the greatest variation over the two-year period (Table 1), and, as com-

TABLE 4

Percentage of Recommended Dietary Allowance of ascorbic acid obtained from citrus fruits and their juices

SURVEY	PER CENT OF FAMILIES RECEIVING				
	None	1–39% of allowance	40–59% of allowance	60–79% of allowance	80% or more of allowance
November 46	15	51	18	6	10
May 47	12	47	20	9	12
November 47	26	51	13	5	5
May 48	28	44	12	10	6
November 48	28	47	15	5	5
Average...	22	48	16	7	7

pared with the other three nutrients, a larger percentage of the families received less than half of the recommended allowances. As the survey progressed, 23 per cent fewer families obtained excellent amounts of ascorbic acid, which was naturally paralleled by an increase in the percentage of the families showing poor, fair, or good intakes. As shown in Table 4, these changes were apparently due to a drop, evident from the third survey on, in the intake of families obtaining over 40 per cent of their recommended allowances for ascorbic acid in the form of citrus fruits or juices and an increase in the families eating no citrus products. The price of these excellent sources of ascorbic acid did not go up during this study, but as mentioned previously, the price of many other foods did rise very materially. It would appear that one way these families economized was by drastically reducing their consumption of citrus products, which they probably regarded as unnecessary frills.

To determine whether a relation between high expenditure for meat and poultry and suboptimal intakes of ascorbic acid existed, an analysis of figures was made as follows. Of the 60 per cent of the families low in ascorbic acid intake, one-third (20 per cent of the total) were spending more than one-fourth of their food money on meat and poultry. About two-thirds of these (14 per cent of the total), by reducing their meat expenditures to 25 per cent or less, could have bought enough ascorbic acid to meet their allowances. However, the remaining one-third (6 per cent) would have had to spend more on citrus products than they could have saved by this economy. The other 40 per cent of the families that were short of ascorbic acid were already spending less than 25 per cent of their budget for meat. Therefore, to meet their allowances, a total of 46 per cent would apparently have had to spend more money on food. For a family of five, one orange per person per day would have cost from 73 cents to $1.18 per week during the survey period.

Variations in Individual Family Intakes

To determine whether families followed a regular plan in buying food, an analysis was made of the variations found in each of 136 families who completed either four or five surveys. This analysis would also disclose whether a single survey of one family provides an accurate picture of its eating habits.

As some slight variations from week to week in the intakes of the four nutrients considered in this study would naturally be expected and may, we believe, be ignored, the diets were classified as consistent if the variation did not exceed 20 per cent of the proportion of Recommended Dietary Allowances obtained.

Using the above definition of consistency, it was found that forty families (35 per cent) bought consistent amounts of calcium. A similar percentage (38 per cent) were consistent in their intakes of thiamine, a slightly lower number (29 per cent), in amounts of ascorbic acid, and almost twice as many (62 per cent) in intakes of riboflavin.

The fact that their intakes were consistent does not tell us how much of these nutrients they were eating. The families were, therefore, divided into three groups, taking an average of under 50 per cent of the allowance as "poor," 50 to 79 per cent as "fair," and 80 to 100 per cent or more as "good." Just one family fell into the consistently poor class, and then only in regard to ascorbic acid. One other family was using fair amounts of ascorbic acid, and two, fair amounts of riboflavin. All the rest were taking consistently good amounts of these two nutrients. In regard to calcium and thiamine, 70 per cent of these consistent families regularly had good intakes. The remaining 30 per cent scored fair throughout. Therefore, the majority of the consistent families had consistently good intakes.

The inconsistent families, i.e., those with variations of more than 20 per cent of the allowances, varied most in their intakes of ascorbic acid. In Table 5, it is seen that 84 of these 96 families showed differences ranging from 20 to 59 per cent of the allowance (Groups 1 to 4). The twelve families in Groups 5, 6, and 7 showed ranges as great as 60 to 89 per cent.

Figure 1 shows the ascorbic acid intakes of seven of these families. Family A, one of those in Group 1 of Table 6, had a maximum difference of 26 per

TABLE 5

Ascorbic acid intakes in the inconsistent families

GROUP	MAXIMUM VARIATIONS IN SAME FAMILY (IN TERMS OF PER CENT OF ALLOWANCE)	FAMILIES SHOWING THESE VARIATIONS
1	20–29	21
2	30–39	23
3	40–49	22
4	50–59	18
5	60–69	7
6	70–79	4
7	80–89	1

TABLE 6

Calcium, riboflavin, and thiamine intakes of 96 inconsistent families

MAXIMUM DIFFERENCES IN INTAKES IN TERMS OF RECOMMENDED ALLOWANCES	NUMBER OF FAMILIES		
	Calcium	Riboflavin	Thiamine
20–29	50	33	50
30–39	21	13	28
40–49	14	3	7
50–59	4	2	0
Total inconsistent families	89	51	85

cent. Family G showed the greatest variation, namely 84 per cent. No regular seasonal variation was evident. For example, the ascorbic acid intakes in Surveys 1, 3, and 5, which were carried out in November, were neither regularly high nor regularly low. Intakes in Surveys 2 and 4, taken in May, showed similar irregularity. It would seem, therefore, that these families bought the foods rich in ascorbic acid at random.

The cost of oranges and grapefruit, which were the main sources of ascorbic acid for these families, showed no upward trend during this period. Canned tomatoes did increase from 14 to 17 cents per 28-oz. can, but they were bought in small quantities.

The maximum differences that the individual families showed in their intakes of calcium, thiamine, and riboflavin are shown in Table 6. A large number of the families showed variations as great as 20 to 29 per cent; a fair number varied as much as 30 to 39 per cent; considerably fewer showed differences as great as 40 to 49 per cent, and very few indeed showed variations as great as 50 to 59 per cent.

Although these variations were not as great as those for ascorbic acid, it is again evident that these families were buying relatively haphazardly.

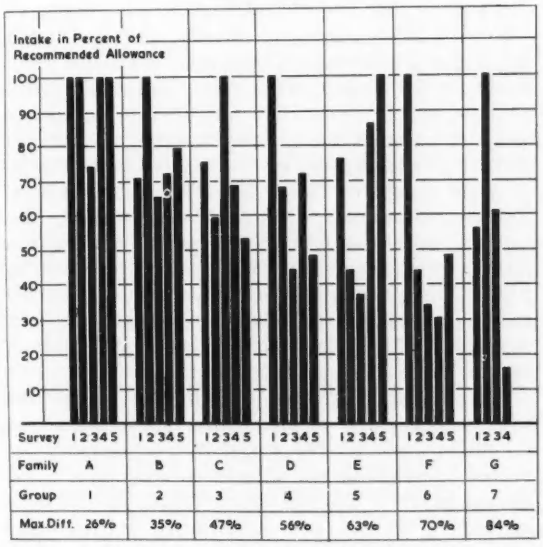

FIG. 1. *Variations in family intake of ascorbic acid at different surveys. (Variation progresses from left to right.)*

Individual Family Records

Variations in the amounts of the four nutrients obtained by each family was also analyzed.

The families were divided into five groups, according to whether their consumption of all four, or only three, two, one, or none of these nutrients (calcium, thiamine, riboflavin, and ascorbic acid) was consistent. Only eleven (8 per cent) of the families had consistent intakes of all four nutrients, and in most cases (see above), their intakes were good.

Nineteen per cent (25 families) used consistent amounts of three of the nutrients. Family H in Figure 2 belongs in this category. This family was inconsistent only in the ascorbic acid intakes. Other families in this group used inconsistent amounts of any one of the other three nutrients.

Thirty-two (23 per cent) families used consistent amounts of two nutrients but variable amounts of the other two; for example, Family I in Figure 2. This family obtained variable amounts of thiamine and ascorbic acid, but consistent amounts of calcium and riboflavin. In other families, the inconsistencies occurred in any two of the four nutrients.

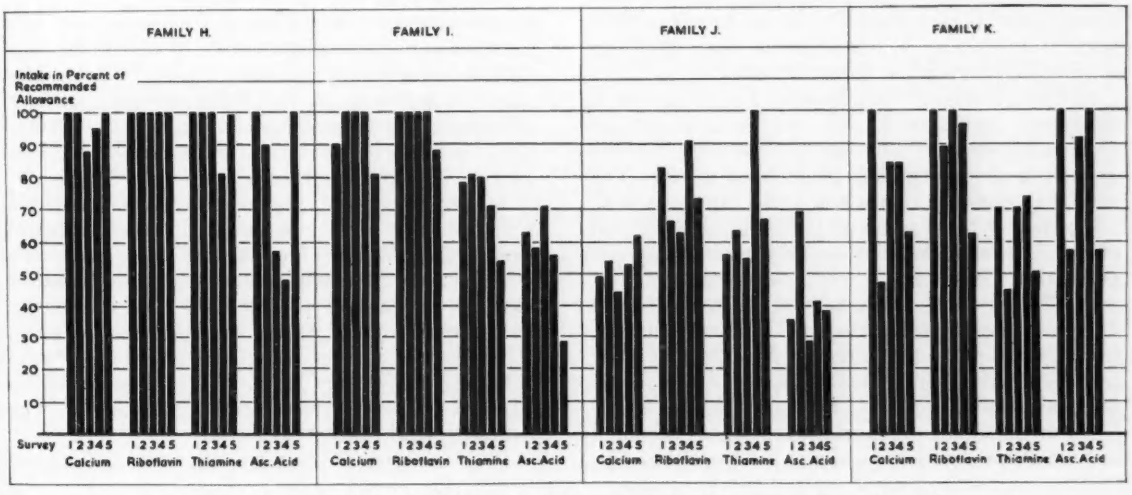

FIG. 2. *Inconsistent family intakes of calcium, riboflavin, thiamine, and ascorbic acid.*

Forty (29 per cent) more families were consistent in their use of only one nutrient (Family J, *Fig.* 2). They were eating consistent, although relatively low amounts of calcium, but intakes of riboflavin, thiamine, and ascorbic acid showed variations.

The remaining twenty-eight families (21 per cent) were inconsistent in their intakes of all four nutrients (Family K, *Fig.* 2).

It was suggested that possibly the mothers might be inclined to buy fewer different foods in the later surveys because this would make the recording less laborious and that this as well as the increasing costs would explain the decline in the nutritive value of the diets. The total number of different foods bought in five surveys of ten families picked at random was, therefore, counted and averaged. During the first survey, 48 foods were bought; 46 at the second; 43 at the third; 42 at the fourth; and 43 at the fifth. Therefore, there was some tendency toward simplification of the diets, although the individual families showed great variations.

DISCUSSION

In 1950, Yudkin (21) reported the weekly caloric and nutrient intakes (the food being weighed) of five graduate students in dietetics and one instructor for several consecutive weeks, usually four. These subjects obtained nearly half of their meals at the college. When examined by the method of the present authors, one-third were consistent in their intakes of calcium, riboflavin, and ascorbic acid, and one-half ate consistent amounts of thiamine. With the inconsistent subjects, the intakes of calcium and ascorbic acid were more inconsistent (maximum variations, 40 to 49 per cent of recommended allowances) than those of riboflavin and thiamine, where the maximum variations were 30 to 39 per cent. As might be expected from the individuals taking part in Yudkin's study, the extent of variation in the inconsistent subjects was not as great as that found in the present investigation. It must also be remembered that food was rationed at the time in Great Britain.

In 1945, McHenry (22) reported a study in which thirty-one professional and technical laboratory workers recorded by servings all food eaten for the first week of each month throughout a year. The weekly intakes of calories and seven nutrients were calculated. When compared with the 1943 version of the Recommended Dietary Allowances (23), the percentage obtaining, in the twelve surveys, less than 70 per cent of the allowances for the four nutrients considered varied as follows: calcium, from 3 to 10 per cent; thiamine, from 13 to 45 per cent; riboflavin, from 16 to 39 per cent; and ascorbic acid, from 9 to 52 per cent. The recommended allowances at that time were: calcium, 0.8 gm.; thiamine and riboflavin (sedentary woman), 1.2 and 1.8 mg., respectively; and ascorbic acid (woman), 70 mg. By our method, the one individual whose complete figures were given would be classified as having consistently good intakes of calcium, riboflavin, and thiamine, but the intake of ascorbic acid was slightly inconsistent. It is interesting that these investigators also found the greatest variations in the ascorbic acid intakes.

One might possibly expect less variation in the food eaten by a family than in that by an individual. If such is the case, the individuals in many families in the present study must have had extremely variable intakes indeed.

SUMMARY

From 1030 family food records, each one week in length, the amounts of calcium, thiamine, riboflavin, and ascorbic acid were calculated. These surveys, which were of 373 families having moderately low incomes, were carried out every November and May from November 1946 to November 1948.

When compared with the 1948 Recommended Dietary Allowances, it was found that on the average, approximately 25 per cent of the families met these allowances in calcium and thiamine; 60 per cent in riboflavin; and 40 per cent in ascorbic acid. Throughout the two-year period, the percentage of families that received excellent intakes of each of these four nutrients declined.

Methods are suggested by which these families could meet these recommended allowances with minimal or no added expenditure. They include the partial or complete use of fluid or dried skim milk, the use of whole grain or enriched bread and cereals instead of refined cereal products, and reduced expenditures for sweet baked goods, canned soups, potato chips, and meat. To increase intakes of ascorbic acid, many of the families would have to spend more money on citrus fruits and tomatoes.

Variations in the intakes from survey to survey were analyzed for the 136 families surveyed four and five times. If the family's intake of one of the four nutrients varied at the different surveys by less than 20 per cent of the Recommended Dietary Allowance, it was classified as consistent. Calcium intake of 35 per cent of the families was consistent. Thirty-eight per cent had consistent intakes of thiamine; 29 per cent, consistent intakes of ascorbic acid; 62 per cent, consistent riboflavin intakes. Practically all of the families that were consistent in their use of riboflavin and ascorbic acid, obtained over 80 per cent of the recommended allowances for these nutrients. As for calcium and thiamine, about 30 per cent of the consistent families were obtaining only fair amounts (averaging 50 to 79 per cent of the recommended allowances). The remainder had intakes above this.

The inconsistent families showed the largest

variations in their intakes of ascorbic acid—in some cases the maximum difference in the series of surveys was as great as 70 to 89, in terms of per cent of the recommended allowance. No seasonal variation was noted. The cost of citrus fruit, the main source of these families' ascorbic acid, did not increase in price during the period. Apparently these families followed no plan in buying foods rich in ascorbic acid. The families which were inconsistent in their intakes of calcium, riboflavin, and thiamine also showed marked variations.

Only 8 per cent of the families were consistent in their intakes of all four nutrients. Twenty-one per cent were not consistent in their use of any of these nutrients. The remaining 71 per cent were inconsistent in their use of one, two, or three of the nutrients. The advantage to these families of more information on how to feed their families well is apparent.

One survey one week in length does not usually give a reliable picture of a particular family's eating habits.

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U.S. Dietitians Help Foreign Scientists

This year one of the A.D.A.'s Professional Education Section's projects has been "Aid to Foreign Libraries."

Reports received thus far in the A.D.A. office indicate generous participation in this project. At least six state and five local associations, as well as individual dietitians, have contributed books, periodicals, and money for this project. Favorite gifts have been Journal subscriptions, back issues of the Journal, and copies of the *Handbook of Diet Therapy*.

Offerings have gone to such places as The Netherlands, India, Denmark, Afghanistan, Thailand, the Philippines, Japan, Peru, Yugoslavia, Argentina, and France.

Contributions for this "hands-across-the-sea" project are still welcome, as well as the names of deserving organizations or individuals abroad to whom materials might be sent.

Do Your Records and Reports Work for You?[1]

MILDRED B. BARRY

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THERE are times when we feel that our records and reports don't work for us. Our records don't seem to contain the information we want, and our reports are passed by quickly or ignored by those whose help we need. Why? Could it be that we collect unnecessary information or report in a trite and dull way? If we admit to ourselves that these things are possible, do we do anything about it?

No one person is qualified to answer every question about ways to be successful. Nevertheless, there is one avenue of achieving this objective that we often shy away from—these very records and reports. I believe that many professional people are successful in the best possible sense. But sometimes they hide that fact because of their inability to communicate well with others. Records and reports are often dull, but that is no reason to consider that they must remain that way. Actually, they *must* change if we, as professional people in the field of nutrition and dietetics, are to prove our worth.

Have we sold ourselves as dietitians and public health nutritionists? Or have we been so busy we forgot to try? And when money in the budget is short, what happens to us? Maybe we're still around but remember, progress consists of change, and change should be for the better.

We all think reports and records are important but unfortunately, too few of us do anything about them. We write reports perhaps because it is required by law or by a superior. We should write them to tell our own story. If we believe in ourselves and in our work, we must tell that story convincingly. We should reach the influential people in the community, such as the clergyman, the lawyer, the machinist, the farmer, the housewife—in fact, everyone. We may write both a formal report and a popular report, but let the formal report be popular, too.

[1] Presented at the 36th Annual Meeting of The American Dietetic Association in Los Angeles, on August 27, 1953.

Let us first consider what we mean by the two words. "Records" state facts or deeds during a definite period. "Reports," on the other hand, make those deeds intelligible, interesting, and informative to those who matter—the people.

Our reports come in two sizes—the annual report which is dreaded in the reading and the writing, and the report of an activity completed or at a stage where it needs help from others—or at least understanding. For both of these, the principles are the same.

RECORDS

Let's consider records first. Good public health records are the keystone of effective program management—without them we cannot work well. Records are an effective tool in preparing good reports. Here are some points taken from a speech given at the New England Health Institute in Kingston, Rhode Island in June, 1953 (1).

To be of greatest value, with the least time and effort, records must

. . . *Be tailor-made to your own needs.* How many times we've borrowed systems from others only to spend wasted hours trying to fit our work into someone else's program! It won't do! Other systems are a guide, to be sure, but each job is individual. So is a record!

. . . *Be an integral part of a broad system developed through joint efforts of those concerned with total health needs.* Are your records just hit or miss, bearing no relationship to the whole program? We take pride in talking about the whole person; let's talk about the whole department, too.

. . . *Contain only needed information.* Why clutter your desk with records you'll never use—and take time filling them out?

. . . *Be evaluated periodically.* Perhaps the records you have are outmoded and don't serve your needs. After all, the test of good records is their usability after they've been compiled. Records can start you

on the road toward proving your worth. Keep them well.

REPORTS

How can you make those records mean something to your public? You need reports—reports of projects completed and of activities showing progress. Start by personalizing them.

You need an audience. Picture your potential readers. Take a real person in this group and write to him as you would talk to him. For instance, suppose you have been chairman of a committee studying nutrition education in the schools. You and your committee decide undergraduate training in nutrition is necessary for teachers, and you want to tell the commissioner of education, his advisory committee, and the teachers' college. Do you say, "it has been observed . . ." or "we visited several elementary schools this spring, and we spent . . ."? If you were to talk to the commissioner directly, you'd say the latter. Write to him that way, and others will read over his shoulder. Remember, he appointed people to study about other people! Also, he'll act on a live report sooner. Put people into your report; the reason you have a job is people.

The same reasoning applies to annual reports. Personalize them. Your director, the legislator, and the taxpayer don't know professional jargon—that's your worry. They want to know how they're being helped. Be sure to catch their interest by simplicity and by writing about people. We often are impressed with our own plans; that is human. But so is the director, the legislator, or the taxpayer impressed by his plans. He doesn't care that "the nutritionist is planning something." He might be interested in knowing that two-year-old Jane eats peacefully at mealtime since mama learned about . . . Perhaps he has a two-year-old non-conformist, a daughter or granddaughter. And you've caught his interest.

The commissioner will like it if he hears from you when your study is finished, not six months or a year later after everyone has lost interest in action. *Now is the time!* You may think such speed is impractical. It isn't; it's necessary. Your report is written for influential people who can take action. Once teachers are trained, your job of consultation will be easier—or it may even be just beginning. In any case, it's positive progress.

WRITING THE REPORT

If you're organized well, if your records of what the committee has done are simple, making the report is easy. We can't all be first class writers. But, that fact doesn't permit us to be first class duds. We must believe in writing no matter how hard it may be to get started. I once offered a student the opportunity to try writing a pamphlet. She preferred not to write because she could "always learn that on the job." As a matter of fact, I haven't really learned yet. This girl was a good student—'way beyond ordinary mortals in her knowledge of nutrition. The fact that she knew so much was fine, but unless she could see that Sadie Slow knew how to feed her baby enough to keep him alive, that knowledge of nutrition wasn't going to help much.

To get back to the commissioner—"We visited several elementary schools this spring. We spent some enjoyable time talking with the teachers about school lunch. We ate good school lunches." These things he knows; he'll want to know what else you found out!

Cull your reports for non-essentials. Tell about the new and the challenging. Tell about the things to be done. Mention the old; he's presumably read reports before.

Statistics can often ruin a good report. Some people write a report with lots of figures. Whom does it impress? No one actually; a good rule might be to include statistics that influence particular conclusions only when you state those conclusions. The rest of the statistics belong at the end or as a separate reference.

Send statistics to those who must have them by law. If you have time, statistics can become a spark through well planned charts or graphs. But, better try them out on your friends first to be sure they really tell the story you intend. The same word means different things to different people. The same chart, unless interpreted, means even a greater variety of things or perhaps nothing. Even pictures can be misleading, so choose these visual aids with care, if at all.

Don't forget to talk about your failures as well as your successes. Failures make you more human to the reader. He's had a few himself! You don't have to leave it there. Perhaps you've started with another approach to overcome your failure. Perhaps you recognize what the right time would be to begin again. Perhaps you need more help. Say so, and you'll probably get it. Be perfect, and you remove yourself from the rest of the human race.

When you have done all these things and have your report ready, be sure you have a live mailing list. Your reports may have to go through "channels," but it's your job to see that "channels" know where to send them. A mailing list is an individual thing depending on your employer, your community, or your state.

CHECK YOURSELF

I've used myself as a guinea pig. I have tried to improve my report writing. But how can I tell whether I have accomplished my objectives? True, more people seemed to be reading my annual report and to be acting on some of its comments. But when you start, a guide is valuable.

Rudolf Flesch's book, *The Art of Readable Writing*

(2), can serve as one guidepost. Using his guide, we can score materials on their ease of reading and on their human interest value. In any sample, ease of reading depends on the number of words per sentence and the number of syllables per one hundred words. The human interest score depends on the percentage of personal words and personal sentences. I checked my own reports. With this guide, I found my annual report for 1946 was fairly difficult to read. It might be all right for those with some high school training—about 54 per cent of adults in this country. But its human interest score was "dull."

With some justifiable fear, I applied the guide to my 1952 report. The reading ease score was standard. Happily, the human interest score had risen from "dull" through "fairly interesting" to "interesting"! It was seventh or eighth grade level, and 83 per cent of the adults have reached this level. Applied to magazines, the report was of the digest type in both areas. It was better—at least, going in the right direction.

TO SUM UP

I believe that reports are important to keep each of us on our toes. Records are the tools by which reports are developed. Practice in writing will help us improve, *if* we are personal and warm and forget to be stuffy. We must be simple and let our English be talking English. We must be quick to report while interest is high. When we have something to say, write to a person—to someone we know.

When we have done all these things, we are well on the way to having our records and reports work for us.

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Food Misinformation

A recent compilation of a committee of the Community Nutrition Section of The American Dietetic Association lists 213 bits of food misinformation current in the U.S. These are divided into five categories. The most prevalent mis-concepts are reported to be:

A. Those related to health and disease.
   1. Fruits, especially citrus and tomato, are too acid to be handled by the body.
   2. Garlic cures high blood pressure.
   3. Milk is constipating.
   4. Beets build blood.
   5. Beets, red meat, eggs, and pork cause and/or increase hypertension.
   6. Foods cooked in aluminum utensils will cause cancer.
   7. Cheese is constipating.
   8. The combination of milk and orange juice or citrus fruit is poisonous.
   9. The combination of milk and fish is poisonous.
   10. Raw cucumbers without salt are poisonous.

B. Those related to obesity.
   1. A good way to diet is to skip breakfast.

C. Those related to the caloric value of food.
   1. Honey is not fattening.
   2. Whole milk contains many calories and must be avoided in reducing diets.
   3. Milk, potato, and bread are fattening.
   4. Fruit and fruit juices are not fattening.
   5. Dark bread contains fewer calories than white bread.
   6. Toast has fewer calories than bread.
   7. Vegetable fats and oils can be used in any quantity and are non-fattening.

D. Those related to milk, not listed above.
   1. Skim milk has little nutritive value.
   2. Chocolate in combination with milk prevents absorption of calcium.
   3. Adults need no milk.

E. Miscellaneous
   1. Pork liver is less nutritious than beef liver.

The complete report is available in mimeographed form from the A.D.A. office. The unabridged version also includes a presentation of "What is responsible for food misinformation", "Who is responsible?," suggestions for ways of bringing scientific information before the public to counteract current misinformation, and a bibliography of sixty-two references.

Can Different Interviewers Obtain Comparable Dietary Survey Data?[1]

HELEN N. CHURCH,[2] MARY M. CLAYTON, Ph.D.,[3] CHARLOTTE M. YOUNG, Ph.D.,[4] and WALTER D. FOSTER, Ph.D.[5, 6]

AS PART of her work, the dietitian is sometimes required to obtain information on the food intakes of a number of individual subjects. Often it is convenient to secure this information through interviews. Frequently it is necessary that two or more dietitians cooperate in interviewing a group of subjects. Whenever this occurs, there arises the question of whether different interviewers can obtain comparable information. Certainly it would give the cooperating dietitians a greater feeling of confidence to know what degree of variation may be expected between interviewers.

The present study attempts to answer these two questions which arose when two or more interviewers were cooperating in obtaining dietary information in a survey. Search of the literature failed to reveal any previous studies on this subject. It is a recognized limitation of the present study that it does not measure the validity or accuracy of the information obtained, but it does measure the ability of two or more trained interviewers with similar backgrounds to obtain comparable data.

METHOD

Data suitable for comparison of interviewers were offered by three state experiment stations participating in the Northeastern Regional Project NE-4. Table 1 shows the nature of these data. Three interviewers, working as a team in each of two schools, collected the data in Maine. Two interviewers, in each of two industrial plants, were responsible for the data obtained in New Jersey. In New York, dietary histories were taken by two interviewers in one school.

The backgrounds of all the interviewers were substantially the same. All were nutritionists who had had some training in dietary interviewing before collecting data for this project. The same set of instructions (1) were given to all interviewers. From each subject, they obtained the usual pattern of eating and then verified this information by cross-checking from a list of food groups. In this paper the comparisons are made between interviewers at the same station. That somewhat larger differences may occur between interviewers at different stations is recognized and is a possibility that cannot be tested statistically with the available data.

Statistical Methods

In a study of this type the information desired includes a comparison of differences between interviewers and an estimate of the individual interviewer's consistency from group to group. A direct comparison was not possible since only one dietary history was obtained from each subject. However, to insure an unbiased basis for comparison, a random sample of subjects from a homogeneous group was selected for each interviewer on the premise that the mean intakes for these randomly selected sub-groups would be no more disperse than would be expected for samples of the size indicated in Table 1. Any differences larger than these could be attributed to interview effect. In the statistical analysis, the test was made to learn if interviewer differences were larger than the expected sampling variation.

The above procedure is looked upon as having certain advantages over direct comparison. It avoids duplicate interviews on the same subjects, with the unwanted effects of conditioning, stereotyped

[1] A contribution from the Northeastern Regional Nutritional Status Project NE-4, supported in part by regional research funds from the Research and Marketing Act of 1946 and in part by other federal and state funds. Paper of the Journal Series, New Jersey Agricultural Experiment Station, Rutgers University, the State University of New Jersey, Department of Agricultural Biochemistry, New Brunswick. Received for publication April 29, 1952.

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[6] With the technical assistance of Lorraine O. Gates, Prudence S. Higgins, Dorothy U. Turner, Valerie Gyrisco, and Vivian Smudski.

TABLE 1

Number of interviewers and subjects studied at three stations

STATION	TYPE OF SUBJECT	GROUPS	INTERVIEWERS	SUBJECTS
Maine	Junior high school students	2	3	48
New Jersey	Industrial workers	2	2	284
New York	Seventh and eighth grade pupils	1	2	106
Total.....		5	7	438

answers, and learning which such repetition would introduce as likely sources of bias.

The data derived from the five groups listed in Table 1 were subjected to analysis of variance studies on the average daily intakes of calories, protein, iron, and thiamine. These nutrients had been found in previous investigations (2) to be representative of the variation found in eight nutrients, namely, calories, protein, calcium, phosphorus, iron, thiamine, riboflavin and niacin, whereas two nutrients, namely, vitamin A and ascorbic acid, required separate consideration.

The differences between interviewers (and subgroups) is indicated by the percentage differences relative to the National Research Council's Recommended Dietary Allowances (3). This statistical analysis has been presented in greater detail in another publication (4).

RESULTS AND DISCUSSION

Table 2 summarizes the means for the interviewer groups. Since separate analyses for the subjects' sex were not made, an average of recommended allowances was computed, weighted according to the numbers of each sex. The range, as well as the average percentage difference, is included for the Maine station since there were three interviewers.

Maine. The average differences between interviewers (and groups) with respect to the recommended daily allowances were between 5 and 10 per cent for all nutrients considered. When compared with variations in subjects interviewed by each nutritionist, these differences were found not to deviate significantly from zero. The relative consistency of interviewers from school to school was virtually the same as the consistency of any one interviewer in one school.

New Jersey. Differences between the interviewers were 0.7 per cent for calories and 1.3 per cent for protein. However, for iron and thiamine, the differences between interviewers (9.2 and 7.3 per cent, respectively) were statistically significant. The interviewers tended to maintain their relative effect from plant to plant in all nutrients.

New York. Differences in calories of 2.1 per cent and protein of 2.4 per cent were found in this group.

TABLE 2

Interviewers' means and per cent differences

INTERVIEWER	CALORIES	PROTEIN	IRON	THIAMINE
Maine				
		gm.	*mg.*	*mg.*
A	2850	89.2	15.7	1.56
B	2970	96.8	17.8	1.65
C	3080	100.8	16.1	1.70
Difference				
Range.....	3.8–7.9%	4.8–14.1%	2.7–14.0%	3.6–10.0%
Average.....	5.3%	9.4%	9.3%	6.7%
New Jersey				
D	2850	91.0	16.8	1.60
E	2830	90.1	15.7	1.49
Difference....	0.7%	1.3%	9.2%	7.3%
New York				
F	3110	99.0	16.7	1.72
G	3050	101.0	15.5	1.67
Difference....	2.1%	2.4%	8.0%	3.6%

Thiamine showed a 3.6 per cent difference between the interviewers, and iron, a difference of 8.0 per cent. None of these differences was statistically significant.

A study of Table 2 leads to the conclusion that differences due to interviewers would not appreciably alter the results of the dietary survey. Averages for the specific nutrients were 2.7, 4.4, 8.8, and 5.9 per cent for calories, protein, iron, and thiamine, respectively. The errors attributable to interviewers were small compared to those often observed between different methods of obtaining dietary information. For example, consider the history and the record (5, 6) where differences of 20 per cent were observed with considerable frequency. Moreover, these differences carry even less significance when viewed in terms of nutritional status where there remains a large and difficult task of accurate measurement. As indicated by these analyses, differences between interviewers rarely exceeded 10 per cent of the allowance for each nutrient (average 5.4 per cent), and they are not likely to exceed sampling variations inherent in dietary survey methods. Thus, it is concluded that interviewers with similar backgrounds and training for cooperative research, as exemplified in this study, are able to obtain comparable data.

SUMMARY

Dietary survey data collected by seven interviewers on 438 randomly sampled subjects were analyzed for differences due to the interviewer. In this study, these differences rarely exceeded 10 per cent (average 5.4 per cent) of the National Research Council allowances for each nutrient, and

they are unlikely to exceed sampling variations. It was concluded that interviewers having similar backgrounds and training and working as a team are able to obtain comparable data.

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BIOGRAPHICAL NOTES ON THE HISTORY OF NUTRITION

Charles Ford Langworth—August 9, 1864–March 3, 1932

At the beginning of this century, nutrition as a science was practically unknown. Chittenden had started the first classes in physiologic chemistry at Yale in 1874, and Atwater, "father of American nutrition," on his return from Voit's laboratory at Unich in 1887 had become interested in the feeding of man and designed and built the first calorimeter for human nutrition studies. Major interest at this time was in calorimetry and energy values, and the data on food composition were limited and widely scattered. The man who was to do much to help put nutrition on a sound, scientific basis was Langworthy, who had his first teaching experience in chemistry (1893–95) under Atwater at Wesleyan University in Connecticut and who ably carried on the nutrition work begun by Atwater.

Charles Ford Langworthy was born in Middlebury, Vermont, on August 9, 1864, the son of Charles Parker and Ann Elizabeth (Ford) Langworthy. After receiving his bachelor's and master's degrees from Middlebury College, he went to Germany and obtained his doctorate from Emperor-Wilhelm University in Strassburg (1893). He became associated with the Office of Experiment Stations in 1895 and was Associate Editor of the *Experiment Station Record* until 1924. He succeeded Atwater as chief of nutrition investigations in the Office of Experiment Stations in 1905 and in 1915 became the first chief of the Office of Home Economics. When this was reorganized at the Bureau of Home Economics in 1923, Langworthy became specialist in home economics.

Langworthy assembled much of the data for the classic Bulletin No. 28, *The Chemical Composition of American Food Materials*, prepared by Atwater in 1896. He was interested in the popularization of nutrition information and prepared many popular bulletins on food and diet which were valuable to teachers, physicians, and homemakers. Scientific investigations in nutrition were also conducted under his direction. An improved form of the Atwater-Rosa calorimeter for study of diet and energy expenditure in various kinds of work; dietary studies and digestion experiments with different foods; and the ripening of fruits were some of the studies undertaken.

He participated in the Lake Placid Conferences, was a charter member (1909) and first vice-president (1902–12) of the American Home Economics Association, and served on the editorial board of the *Journal of Home Economics*.

His interest in food was practical, as was demonstrated by the impromptu luncheons prepared in his office; his practical ability was also shown by his ingenuity in renovating old china and furniture.

Home economics is indebted to Dr. Langworthy not only for his work as Chief of the Office of Home Economics but for his broad cultural interpretation of home economics and his help in the formulation of the early syllabus of home economics.

He remained a bachelor and died on March 3, 1932.—

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Editorial

The Highway of the Dietetic Profession[1]

GRACE BULMAN

Director, Dietetic Service Department of Medicine and Surgery, Veterans Administration, Washington, D. C., and President, The American Dietetic Association

Most of us think of Robert Louis Stevenson as a renowned writer, but he achieved fame as a road builder and road mender as well. He was truly a great man to know and to love when he inspired the chiefs of Samoa to make a highway in the wilderness. This, the road of gratitude, was cut, laid, and kept by the pureblood tribal kings. At the opening of the road in 1894, Mr. Stevenson spoke thus:

> Chiefs, our road is not built to last a thousand years, yet in a sense it is. When a road is once built, it is a strange thing how it collects traffic, how every year as it goes on, more and more people are found to walk thereon, and others are raised up to repair and perpetuate it, and keep it alive.

Early in the twentieth century, another road was opened—that one by a small group of dietitians. Emphasis on the place of the science of nutrition in the field of medicine gave these first dietitians the foresight to determine that then was the opportune time to dedicate a highway to the profession of dietetics. Thus, at a two-day conference in 1917, The American Dietetic Association became a reality with service to mankind as its objective. Well do we know that traffic on the new professional road has become increasingly heavy through the years, from the first marching of 58 hospital dietitians to that of our present membership of almost 11,000. Although nearly 50 per cent of this number still remain in the hospital field, varied opportunities have developed in other areas, such as college food service, school lunch, research, training, commercial and business organizations, community nutrition, radio, and television. In addition, a yearly average of 700 dietetic interns—and even now, a few residents—are graduated to perpetuate the profession. In this number are foreign students, too—from the Union of South Africa, India, China, England, Sweden, and Canada.

One of our progressive members, Dr. Margaret Ohlson, has presented a real challenge to each of us in these words: "One of the dangers to our profession today is the tendency to accept what we have by way of prestige without questioning. We shall have to grow with changing times if we are to keep what we have, and certainly to advance. Our leadership group accepts, but each isolated dietitian must think and do something about it!"

OUR FIELD EXPANDS

A brief look backward on what has happened in our field of dietetics, beginning specifically with the feeding of the sick, impresses us with its outstandingly dynamic quality. Following World War I, the preventive approach took root, along with the discovery of various vitamins. Wide distribution of certain protective foods, such as butter, iodized salt, and cod-liver oil, was effected. Educational programs to stimulate their use and other health measures were developed. By the advent of World War II, the improvement of common foods through added synthetic nutrients to promote prevention of deficiency diseases in large populations became practical. As we readily recall, extensive use of vitamin D milk, fortified margarine, and enriched flour, bread, and cornmeal occurred. With this advancement in the science of nutrition came long-range educational programs which have done much to guide our nation, and now the world, toward a better daily diet.

This, linked with the breath-taking advances in methods of purifying, preserving, and transporting foods, agricultural practices, economic conditions, streamlined food service layouts and equipment, makes our job fascinating. These advances stimulate us to go at high speed to keep up with the trends. Today, dietitians are rarely faced with the dietary treatment of full-blown deficiencies, but rather, the indication of sub-optimal health. Demands on our knowledge and skill are great when dealing with loss of vigor, retarded growth, early aging, obesity, and its many resultant complications, as well as the other more or less intangible forms of illness and debility.

Our opportunities reach far beyond the confines of our hospital walls—out into the community and on to other nations throughout the world. We are faced with an important part in preventing and correcting malnutrition and in the rehabilitation of individuals and populations.

When one reads that rays from A-bomb waste may be used to irradiate raw pork and thus kill any lurking parasites deadly to man, it is evident that the field of food is moving along with the world tempo. Present-day accomplishments in food tech-

[1] Presented before the Southeastern Conference of Dietitians in Atlanta, April 7, 1954.

nology make us think that some of the statements in *Gulliver's Travels* might not have been so fantastic after all. For example, he says: "He had been eight years upon a project for extracting sunbeams out of cucumbers, which were to be put in phials hermetically sealed, and let out to warm the air in raw inclement summers." Couldn't we say that we can find sunbeams in milk today?

OUR OPPORTUNITIES EXPAND

Long passed is the day when the hospital dietitian's main responsibility was that of "special" or modified diets. Several new lanes have been added to the highway. Just as in all professions, specialty avenues in dietetics have been opened and have provided an outlet for intuitive flairs and capabilities. The therapeutic aspect has grown to include all patients, their families, and the other professional staffs. Then, too, the research-minded have opportunities not only in clinical nutrition studies but in food preparation, work flow, personnel utilization, and many other facets. Those best fitted for work in training and educational programs also find challenging frontiers.

Dietitians with "business heads" and special managerial ability can step into administrative positions. The knowledge and application of good management in the use of funds, personnel, and physical plant are essential if the administrative dietitian is to be successful. She, like any other manager, must have a sound human relations approach to attain her professional goal. All known principles of human behavior must be used daily in order that she better understand those to whom she is responsible, those responsible to her, her co-workers throughout the hospital, and above all, the patients whom she serves. As one experienced administrative dietitian explained, "There are no backlogs in the hospital dietetic service."

What one may think cannot be done today *must* be done today. Each meal creates a climax of work which must be completed on time, and in a given time. The objective to contribute effectively to the treatment and care of patients, so as to meet aesthetic and physiologic needs must be attained. This operation directly or indirectly involves every service or division in the hospital organization and requires the harmonious pulling together of all of the working units.

Careful follow through by those in charge of food service will give assurance that every phase of dietary treatment is pointed toward better patient care. The application of human relations is truly productive when every member of the dietetic service—from the director to the cooks in the kitchen and the employees who serve the food—has a real understanding of the patients' point of view. The personnel will realize that an individual threatened by illness and separated from the security of daily home life and family, work, and play does not always react normally. They will know, too, that satisfying meals can do much to help the patient regain emotional stability as well as nutritional health.

Just as personnel accept changes in their working conditions with better grace when they have been included in the planning, patients are more likely to accept dietary modifications if they are well prepared beforehand. Deprivation is unpleasant at best, but surprise deprivation is distressing and often depressing. When the physician prescribes a modified diet, he does not expect the dietitian suddenly to take away the patients' salt or decrease the fat he likes so well without first telling him why it is necessary. Once the patient understands the situation and realizes that others are interested in his welfare, he becomes more willing to cooperate. In this way, his recovery can be aided, and he will return to his home satisfied with his treatment, thus strengthening the hospital's place in the community.

This quick glance into the hospital dietitian's sphere of activity shows how she lives up to the profession's "Code of Ethics" which begins with the words: "A professional person devotes himself to the service of humanity." We have chosen a profession with a stimulating and satisfying purpose, imbued with the concept of service to others. Where we go from here depends on each of us, for we have a share in making the profession a success. It is imperative that knowledge and skills be kept current and applied in a practical, effective way if we are to fulfill our ever-mounting obligations.

OUR FUTURE EXPANDS

It is told that in a wild section of the country there was once a sign where a primitive road started through an undeveloped forest. It read: "Choose your rut. You'll be in it for the next 25 miles." Surely, in this day of boundless opportunities, there is no need for us to stay in the same rut. The naturalist, Donald Culross Peattie, quoted his aged mother as saying, "I sometimes think, Donald, that the greatest thing in life is the power to grow." Certainly the power to grow lies in all of us. Whether we do it by absorbing and applying the best we learn from others and from our own experience, or through intensive reading and thinking, through graduate study, summer workshops, institutes, or refresher courses—however seems best for each of us—we shall have our reward in what Dr. E. Neige Todhunter describes as "personal satisfaction and personal growth."

Henry David Thoreau said, "If a man does not keep pace with his companions, perhaps it is because he hears a different drummer. Let him step to the music which he hears, however measured or far away." The important thing is that we listen for the drummer and set our pace on the road to progress. There is excellent advice for us in the words,

"When a decision is once made, close the gate." The successful ones are constantly closing gates behind and opening new ones ahead.

More and more The American Dietetic Association is invited to participate in national and international programs that are directed toward the betterment of humanity. Such recognition of the Association places greater responsibility on each of us to maintain and improve our professional highway. The growth we show as individuals will be reflected in the goals we set for our profession. Even as we give our best efforts to each day's performance, we want to be sure that we let nothing obstruct our view of future objectives. The North Country saying is still good advice: "Keep your fingers on the near things and your eyes on the far things."

Recipe for Improved Writing

From a close examination of the writing in many scientific publications, one would never guess that as a nation we are renowned for efficiency. Sentences bulge like overfed matrons with unnecessary words that obscure a writer's ideas and weaken his emphasis.

The following sentence illustrates the point:

> It is noted by Harrow that pancreatectomy is fatal to the dog, with the death of the animal occuring in one or two weeks and that the length of survival of cats after removal of the pancreas is about five to six days.

A shorter, clearer, and more forceful version of this is:

> Harrow notes that pancreatectomy is fatal in dogs in one to two weeks and fatal to cats in about five to six days.

Such writing—wherever it appears—hampers the sharp, clear transfer of ideas. And certainly when a writer respects his ideas sufficiently to offer them up to cold print and the tough judgment of his colleagues, he wants to present them as clearly as he can. This he can do more satisfactorily by forcing every verb to do its full duty. The verb, after all, is the spine of a sentence.

To use verbs efficiently, obviously a writer must first recognize superfluous verbs. Here are some guides.

(a) Examine all forms of the verb *to be*. If the sentence contains the verb *to be*—and many sentences do—try converting one of the nouns to a verb. Example:

> . . . but the experiment was a complete failure.
> failed completely.

Occasionally, in reworking *to be*, the writer will find that converting a noun to a verb does not eliminate *to be* but merely reduces it to a helping verb. In such sentences, certain wordy constructions—often prepositional phrases—needlessly take over some of the verb's functions.

The constructions *there is* (*there are*, *there were*, and so forth) and *it is* frequently employ a useless *to be:*

> For example, in recent years *there* has *been a tendency* for industry to "decentralize."
> . . . industry has tended to "decentralize."

> Although no figures were available for Daylesford, it is listed because *there is no doubt that* it is the least important stop on the route.
> . . . because it is clearly the least important stop. . .

> For some men, *it was* the opportunity to develop and grow with a problem *which* was most important.

> . . . For some men, the opportunity to develop and grow with a problem was most important.

There is and *it is* require various cures. In the first of the foregoing sentences, for instance, a noun (*tendency*) becomes the main verb (*tended*), replacing *been*; in the second, an adverb (*clearly*) eliminates *there is*; in the third, *it was* and *which* are simply removed.

No one, incidentally, should condemn *to be*—or any other verb or construction that is cudgeled here—automatically. *To be*, to quote a good handbook, "is the most necessary single verb in the language."

(b) Examine forms of *to have*. Again look for a key noun. Examples:

> These developments *had a profound influence on* Philadelphia's Main Line District.

> . . . These developments profoundly influence. . .

(c) Look for verbs such as *give*, *make*, *do*, *occur*, *cause*, *effect*, *bring about*. Since a complete list of such verbs would be extremely long, finding them demands sharper eyes than finding *to be* forms.

> A considerable number of scientists also *gave careful consideration to* the prospective working atmosphere in choosing a job.

> . . . scientists also considered carefully. . .

The writer should not conclude that these verbs are always unnecessary. In "I gave him the book," *gave* or a synonym is the only verb possible.

(d) Finally: convert passive voice constructions that name the doer of the action to the active voice. Example:

> It was during this period that *a cult of the Egyptian Isis was introduced into this area by seagoing natives of Apuglia.*

> During this period, seagoing natives of Apuglia introduced into this area a cult of the Egyptian Isis. (This version also removes *it was* and *that.*)

Science writers' fascination for the passive is deplorable but understandable. For describing the experiments, the passive (without the doer) sometimes performs even more efficiently than the active. Too, editorial demand for objectivity may force a writer into abandoning "I." Thus, editorial policy and the passive's efficiency in specific circumstances may develop in the writer a passive-psychosis, a state in which he cannot differentiate between a good passive and a bad one. A writer might well consider every passive sick until he proves it healthy.

The preceding facts, even if heeded, will not guarantee entry into prose heaven. On the other hand, they do identify certain major snares and temptations.—*Excerpted from "Recommended Diet for Padded Writing" by Herman R. Struck in Science 119: 521 (April 23), 1954.*

Current Comment

Pioneering in Home Economics Education in Wisconsin

FRANCES BERKELEY FLOORE
The Berkeley
Neenah, Wisconsin

When Helen Cheney Kimberly first proposed to the city fathers of Neenah, Wisconsin, that cooking be taught in the public schools, she was hooted out of the meeting. "The idea of putting domestic science in the schools! What tomfoolery was this! Didn't mothers teach their daughters to cook in their own kitchens! What on earth was the world coming to! Since when was cooking a science that had to be *taught*!" No, the men would have no part of it! But they had not reckoned with the determination of Mrs. Kimberly, who was not one to be pushed aside so easily.

Frances E. Willard had been her grandmother's cousin and had spent much time in her home. From Miss Willard, Helen Cheney had learned to honor the ideals of service. Another of her inspirations had been Mary Lyon, founder of Mt. Holyoke Seminary. Mrs. Kimberly's father, James Cheney, had also set her an example in pioneering by supporting Cyrus Field in laying the first trans-Atlantic cable and cooperating with Jay Gould in putting in the Erie Canal, despite the tremendous opposition of the New York Central Railroad. She had learned at home that women could be useful as well as ornamental, and scientific as well as practical. The golden spoon with which she had been born had been tossed aside for a cooking spoon. She used to say to her husband, J. Alfred Kimberly, whose hobby was farming and who built the first silo in his part of Wisconsin, "If you find that certain types of feeding produces better cattle, why not be interested in what and how you feed your children?" But he, like many less farsighted people, was only amused at her idea.

Women who were leaders in thought and action were Mrs. Kimberly's friends. Among them was Mrs. Peabody of Boston, who was interested in the Boston Cooking School. In discussing the work of the School with Mrs. Peabody, Mrs. Kimberly learned that there were no cities in the United States outside of Boston where domestic science was taught in the public schools. Ames College in Iowa offered such classes, but they were for college students. She watched with growing enthusiasm the success of the Boston project and dreamed of starting classes in her home town of Neenah, Wisconsin. During this time she was busy raising her family of seven children (two others had died), and she was also active in civic, welfare, social, and church affairs. But her heart and soul centered around a dream in which she visualized a room filled with tiny stoves and young girls baking and broiling while being taught the fine art of "domestic economy," as it was often called.

Helen Cheney Kimberly

The men were stubborn and would not listen to her arguments, so she gathered together a few of her wealthy friends with school-age daughters to see a demonstration by a graduate of the Boston Cooking School. They became enthusiastic. Then Mrs. Kimberly went before Neenah's Mayor and City Council and tried to persuade them to try the course for "just a year," but they turned a deaf ear. "Our daughters," they said, "are taught to cook at home by their own mothers." Mrs. Kimberly told them that their mothers did not know how to teach scientific cooking. Finally, beaten down by her relentless persistence, they gave way to what they considered a temporary whim, and she was given permission to use a room in an old building for one year—provided she would "Equip the room, hire the teacher, pay her salary, buy all the fuel and the food, and hire a woman to clean up"! And to make it a little more

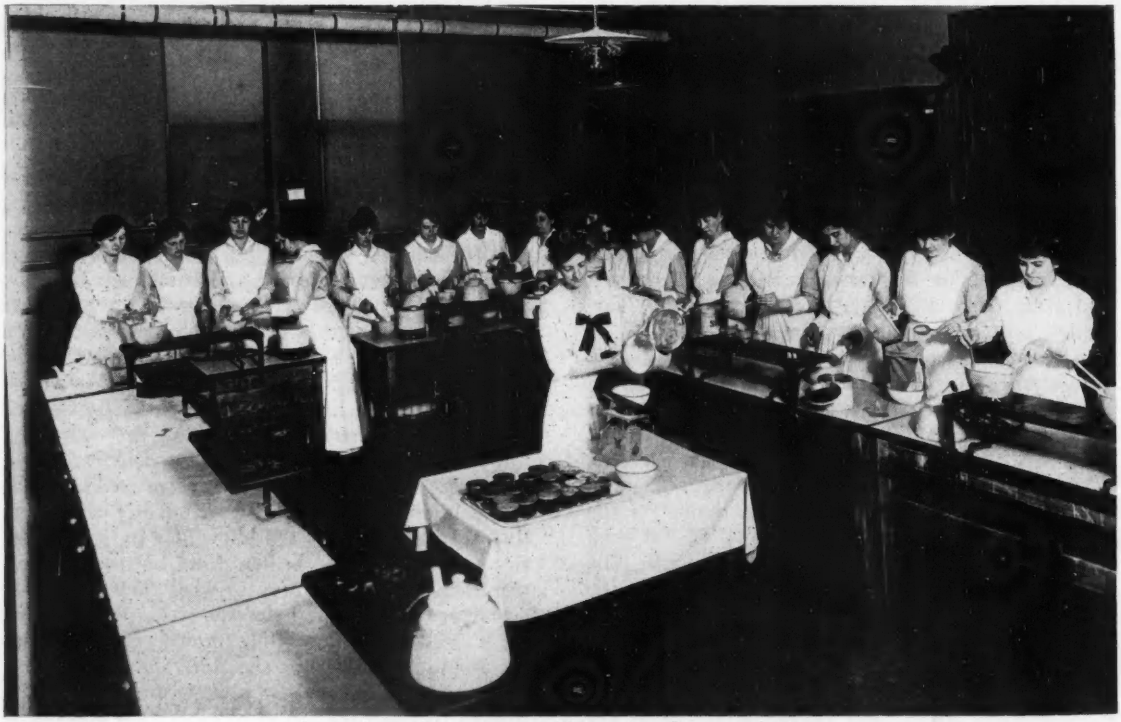
difficult, they appointed a five-member board to review the project at the end of the school year and decide whether it should be put into the school on a more permanent basis.

Fortunately, three members of the committee were physicians, and they (who have always been the dietitian's best friend) carried the vote in favor of the course. At the end of the term their report stated: "We can always tell if the daughter of a patient has had domestic science. If she has, the house is cleaner and our patients are given the right dosage of medicine. If we say one-half teaspoon, they will get that and not one-quarter or a whole teaspoon." In other words, their orders were carried out on a more exacting basis.

On August 17, 1896, after the trial had been successful, a teacher was engaged for five months for Neenah Public School at a salary of $22.50 a month, but only after a wide search to find someone willing to take on the new venture. The plan had been greeted with ridicule when it was announced and was the object of considerable fireside chatter and banter. Mrs. Kimberly took the new teacher, a recent graduate of the Boston Cooking School, to families whom she knew took in teachers for room and board, but to her surprise they refused to take a "cook," as they referred to her, and it was some time before anyone was found to provide lodging.

After the classes became successful in Neenah, other communities began to ask for advice in starting domestic science in their schools. It was always necessary for Mrs. Kimberly to explain in great detail what had to be done in establishing classes and, of course, she met opposition at every turn. The fact that her cooking demonstrations were always successful is a great tribute to her ability and ingenuity. When a wealthy friend in Oshkosh asked for information, Mrs. Kimberly didn't waste a minute. She got out her span of horses and her carriage, and with her uniformed maids to serve as demonstrators, she took the teacher and the food and drove the 25 mi. over bumpy roads to the lovely home of Mrs. Orville Beach who had assembled the "400" of Oshkosh. They enjoyed the demonstration and asked many questions. As a result, Mrs. Beach established the Department of Domestic Science in the Oshkosh High School. Mrs. Kimberly also influenced Mrs. Beach to bequeath a quarter of a million dollars to the vocational school.

With the Neenah plan a success, Mrs. Kimberly decided to go to President Charles Kendall Adams of Wisconsin University and offer to establish a chair for domestic science there. He suggested, however, that she go to Milwaukee-Downer College, as it was a school for girls. Ellen C. Sabin of Downer was much interested, but as before, there were those who opposed the idea. The President of the State Federation of Women's Clubs was an authority on Shakespeare and to her, the idea was preposterous. She



An early cooking class at Milwaukee-Downer College

was more interested in having a scholarship for the study of Shakespeare. However, through clever parliamentary manipulation, the federated clubs cast their vote in favor of domestic science and a chair was established at Milwaukee-Downer College in 1901.

The demand for teachers of domestic science was so great and the supply so short that Mrs. Kimberly made an endowment of $10,000 for a scholarship at Downer. In 1904, the department was greatly enlarged and the name changed to "Home Economics." By 1905 enough students had graduated from the course to form a separate Home Economics Alumnae Association.

Mrs. Kimberly not only gave of her energy and time, but she and her husband gave the money for Kimberly Hall at Downer, thus providing adequate space for the domestic science classes.

She was an excellent cook herself and especially famous for her ice cream. When she gave the recipe to a restaurant owner in Neenah, everyone was delighted because her good ice cream could then be enjoyed without an invitation to her home.

Several other stories about Mrs. Kimberly deserve mention. At one time her husband had started a large paper mill at the little town of Niagara in northern Wisconsin. He and his associates were troubled with constant strikes. Nothing they could do seemed to solve the difficulties. The area was a wilderness. Men would go up to work, but when they brought their families to Niagara, they refused to stay in such an isolated community. Mrs. Kimberly kept giving her husband suggestions as to what to do, but he was too busy and too worried to pay much attention. Finally she told him, "Well, when you have exhausted every other possibility, give me a chance and I will keep your families in Niagara." Later, in desperation, he told her to "take over." She hurried up to Niagara, surveyed the situation, and readily saw that the families needed some recreation and entertainment. She had a large hall built which could be used for dancing and get-togethers in the evening and for cooking classes for the students and their mothers during the day. From then on, there was no trouble.

MRS. KIMBERLY AS A CLUB WOMAN

Mrs. Kimberly was also active in trying to get the Wisconsin club women to see the need of having their juniors take their places as they grew older (a thing Wisconsin women would not admit could happen to them) but was unsuccessful.

When Mr. Kimberly retired as President of Kimberly-Clarke Paper Company, they moved from Wisconsin to Redlands, California, where they had previously had a winter home. To the vast relief of her family, Mrs. Kimberly announced that she was through with club work. However, on reaching Redlands, she discovered that although there was a well equipped, up-to-date domestic science room in the public school, the school board had closed it, keeping only manual training for the boys. It did not take long for Mrs. Kimberly to have the classes in full swing in Redlands.

There, also, she realized her pet idea of junior club women. In Redlands, she found the cooperation she had not received in Wisconsin, and at sixty years of age she started all over again.

In 1941, California honored Mrs. Kimberly as the founder of the Department of Juniors of the General Federation of Women's Clubs.

The pledge Mrs. Kimberly wrote for the Junior Clubwomen still remains their standard: "I pledge my loyalty to the Junior Clubwomen. By doing better than ever before what work I have to do, by being prompt, honest and courteous. By living each day trying to accomplish something—not merely to exist."

The record of Mrs. Kimberly's life is summed up nicely in the *Biographical Cyclopaedia of American Women*: "What Mrs. Kimberly has done for young womanhood is inestimable. Without leaders such as she has been, our progress along educational lines for women would never have been possible. At no time has her confidence in youth lapsed. When asked for an opinion of the present day youth, she expressed herself thus: 'Youth is always wonderful if you give it responsibilities and the training to carry on its work successfully. We must give them the best we have, and they will bring to us the rich gifts of their youth.' "

Teaching Food Preparation Twenty-Five Years Ago to Young Eskimo Men

MARTHA PARK[1]

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Following an agreement with the Bureau of Education of the Department of the Interior, a group of young Eskimo men between the approximate ages of fifteen and twenty-one years, were brought from Point Barrow and the western coast of Alaska to the Alaska Agricultural College and School of Mines in Fairbanks to learn reindeer husbandry. The agreement also provided that special courses be given in cooking, sanitation hygiene, and such elementary school subjects as were found suitable.

[1] Present address: Professor of Home Economics, New York State University, State Teachers College, Plattsburg.

These young men had previously attended government or mission schools and were able to understand and speak some English. Because they were to return to their homes, it seemed advisable to try to train them to use items and do better those things they would use and do in their Eskimo villages.

They explained that their native diet included seal, whale and walrus, deer, birds, berries, roots, leaves, small game, and fish. Soured stomach of a young deer, fish and meat dried or "ripened," liver "ripened" and eaten with blubber had been part of their diet. Eskimos bury fresh meat to "ripen" it—or to protect it from bears, meat is often hung in a cache. They also used coffee, tea, canned milk, canned and dried fruits, cereals, sugar, bread, and commercial biscuit. Cooked cereals and the white man's "hot cakes" were well known to the group. In fact, they wished to emulate the white man as much as possible and were reluctant to discuss methods in which their meat and berries were prepared.

The group was housed in a building apart from the regular college men, where they prepared their meals and ate. As a result, an opportunity presented itself to do "laboratory work" on a home management basis. Thus the actual situation in its natural setting made all class work purposeful.

Two mornings a week, the writer worked with the Eskimos in their cabin. Weekly menus were planned, and with guidance, the Eskimos decided what and how much food would be needed for the week. In addition to learning to prepare and serve simple meals in a sanitary manner, the class work provided most of the meals for the week.

To the extent it was possible, food similar to that used in their homes was used. Hunting and fishing trips provided caribou, fish, rabbit, and ptarmigan. Because the caribou meat was plentiful, the class prepared some cuts fresh, part of the meat was frozen, part was hung, and the remainder buried or dried. Seal oil was not used, and its lack may have made some difference in their negative reactions to other than the fresh and choicest cuts of the caribou.

Cereals, dried fruits, foods that could be prepared with dried eggs, and canned vegetables were included with the above proteins to complete as adequate menus as attainable in the Point Barrow country. Attention was given to the preparation of cereals and dried fruits to make them as palatable as possible and to include their use in a variety of ways.

Once a week the group and the instructor went marketing. But, although the market order had been made out in advance, the Eskimos still wanted more "white man's food."

Their comments were always about the "college man." "He eats pork, beef; he eats hot dogs. College man eats hamburgers." Actually, the law prohibited wild game being served in the college dining room, and the Eskimos could not understand why their meat was largely what they procured, while the college man had "shipped in" meat. The statement was not made with envy, malice, or wilfullness, but with eagerness to duplicate the white man's ways. The best techniques, such as grinding the caribou into hamburger and serving it in a manner similar to the white man's, did not lessen their persistence in wanting more "white man's meat."

Toward every part of their diet they evidenced the same characteristic. "White man eat canned peaches, no dried peaches. White man have corn flakes, Eskimo want corn flakes." Their faces would beam with just the thought of Eskimos having white man's food, and when such things as canned fruits and vegetables, prepared cereals, and hot cakes were included in the menus, they were completely happy. Because they would obtain "white man's food" whenever they could, menus were planned to include some of these "desired" foods with those they might find in their native village. For example, when hot cakes were used, dried fruit and some protein food, such as fish, were part of the meal.

When the Eskimos began to prepare food, their movements were awkward, their choices of utensils differed from the instructor's concept of desirable pots and pans, and the resulting products were unpredictable. The Eskimos indicated little concept of time or of the relation of time, attention, and accuracy in producing a meal. They had little or no idea of what the finished product should be like or how it would taste. However, although they may not have understood why the instructor made certain requests, they were always eager to comply with her suggestions.

The instructor realized quickly that demonstrations brought the best results. The Eskimos would watch every movement without question or comment. Immediately they could repeat the process with very good results. Furthermore, at any later date, without question or comment or recipe, they could do it again. If they had observed techniques, such as making biscuit or bread, braising meat, baking fish, or stewing fruit once, they could repeat the process satisfactorily.

Demonstrations proved very successful perhaps because the boys were not familiar with recipes. Terminology was new to them and each new word or phrase needed to be explained. With demonstration, the technique as well as the standard product was produced for the group to see and sample. To be able to visualize what they were trying to produce resulted in better food products.

They had very little interest in the nutritive value of the food or in reading about it, and they were not alert at all to their need for adequately nutritious meals.

Human relationships within the group were excellent. The boys were considerate of one another and the instructor. With the exception of wishing

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"to be like white man," they presented no disciplinary problems. Always they genially and sincerely expressed appreciation and an invitation for the instructor to return.

It has been observed that the Eskimo is in a state of racial childhood and requires assistance in adjusting himself to new conditions with which civilization has confronted him. As a result of the Nome gold strike, a primitive culture has emerged with some of the tools of modern man. This group's great admiration and respect for the "white man" of the college served as a much more vital motivating force than any guidance given by the instructor or any desire to do better the tasks they would have to do when they returned to their native village.

The extent to which these boys improved their food habits when they returned home is unknown. Nutritious food had little meaning compared to palatability or "white man's food." Research and further work with this group is desirable.

Ways of Using Milk in the Chinese Dietary

MARJORIE WONG HEE[1]

Although thus far in China no scientifically established and standardized procedure is used in constructing recipes, the Chinese are guided by three traditional principles of cookery: (a) the natural flavors of the ingredients in the recipe must be enhanced; (b) any undesirable qualtities must be modified or masked; and (c) all textures must be retained and color notes intensified.

To achieve these principles, several factors are considered. The quality of the ingredients must be excellent, and they must be absolutely fresh. Vegetables are plucked the same day they are to be eaten, and poultry is dressed for immediate consumption. The Chinese, like the French, claim that refrigeration destroys food values as well as the delicate flavor nuance of the food. Just-out-of-the-garden spinach cooked in its own dew and crab steamed alive are super-delicacies.

Preserved foods, such as those which are dried by sun and wind, salted, aged, pickled, spiced, or candied, and canned items are usually served as garnishes. Often these foods are used as relishes to enhance natural desirable flavors or to mask undesirable qualities of fresh ingredients and also to add texture variations and color to a dish or menu. Salted-black-soybean bitter melon; dried-lily, fungus chicken; and sweet-pickled-vegetable-mix spare ribs are examples of such technique.

RETAINING FLAVOR

Seasoning should never replace or destroy the natural delicate nuance of flavor. For instance, the flavor of the chicken is enhanced in coddled-soybean-sauce chicken and rock-salt-parched chicken. Some dishes are steamed, steeped, coddled, or poached without any seasoning in order to preserve the flavor of the ingredients, but are seasoned just before serving. For some foods, individual seasoning for each morsel just before it is eaten is the practice—for instance, steamed crab, steeped tripe, chafing lamb, coddled chicken, sautéed cow peas, or bean sprouts. The proper time of adding seasonings and garnishes during the precooking preparation as well as during cooking makes a great difference in achieving the maximum flavor qualities in the final products. For this reason each ingredient is treated by itself in the precooking preparation and is seasoned, garnished, or marinated separately or even differently at different stages in the cooking and assembling, as in the case of beef mustard cabbage, abalone mushroom, bean curd milk chowder, or bamboo chicken.

Seasoning and garnishes are used to modify or mask objectionable flavors of an ingredient such as those of fish, duck, beef, or lamb. This would be true also of milk, since some people who never have had milk in their regular diet find its flavor objectionable. Spiced-soybean-jam steamed fish, dried-tangerine-skin duck, oyster-sauce beef bell pepper, pickled-garlic sesame-butter-mixture-sauce chafing lamb, and scallion-ginger ham custard are a few examples.

RETAINING TEXTURE AND COLOR

To retain texture and good color, the precooking preparation and cooking methods are controlling factors, just as they are, according to my experience, in American and French cookery. In general, however, the Chinese like their cooked vegetables green, crisp, and barely done. The vegetables are cooked in their own juices or in a very small amount of liquid over a high direct flame, for a very short time, and usually just before serving. Any liquid surrounding the cooked vegetable is served as such or thickened slightly to make a very thin gravy. Vegetables cooked in broth are served as a thin soup. Thin, light soup, and thin gravy are preferred over the thick, heavy type.

These practices require that very tender shoots be selected and all coarse fibers be carefully removed.

[1] The author's experience has included teaching home economics at Hopei Women's Normal College, Teitsin, China; serving as dietitian at Peking Union Medical College; and teaching homemaking at Farrington High School in Honolulu. The work described in this paper was done as part of her graduate study at Teachers College, Columbia University, New York City, under the direction of Natalie K. Fitch, Ph.D.

• "Intestinal flora can be changed either by administration of drugs or by modification of the diet."[1,2] Antibiotics, in particular, have been reported as markedly detrimental to a healthy intestinal flora and repeatedly as causative agents in diarrhea, acute ulcerative colitis, and inflammatory reactions involving the intestinal tract from the oral mucosa to the rectum.[3,4,5,6]

• Lactogenic diets "decrease the tendency to digestive complaints,"[7] and patients on antibiotic therapy have "almost completely controlled"[8] nausea and vomiting by the ingestion of dairy foods,[9] particularly buttermilk.[10]

• With oral antibiotic administration, "the complications are gastrointestinal. The best prophylaxis against this condition is to advise the patient to restock the intestinal flora..."[11] Cultured buttermilk has been reported, time and again, as an excellent dietary constituent for promoting better digestion.[10,12,13,14,15]

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• "We found buttermilk preferable in infantile diarrhea, as compared with other milks."[16] Many researchers[17,18,19,20] concur in the opinion that acid milks such as buttermilk are an excellent source of healthy intestinal flora which promote normal digestion and elimination, especially in the presence of certain gastrointestinal disturbances.

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[1] J. A. M. A. 152:1676 [Aug. 22] 1953.
[2] J. A. M. A. 151:964 [Mar. 14] 1953.
[3] J. A. M. A. 152:585 [June 13] 1953.
[4] A. M. A. Arch. Int. Med. 90:677 [Nov.] 1952.
[5] J. A. M. A. 149:762 [June 21] 1952.
[6] A. M. A. Arch. Int. Med. 90:763 [Dec.] 1952.
[7] A. M. A. Arch. Int. Med. 90:677 [Nov.] 1952.
[8] J. A. M. A. 144:519 [Oct. 14] 1950.
[9] J. A. M. A. 142:1133 [Apr.] 1950.
[10] A. M. A. Arch. Dermatol. & Syphil. 67:173 [Feb.] 1953.
[11] Eye, Ear, Nose & Throat Monthly 31:647 [Dec.] 1952.
[12] Antibiotics & Chemotherapy 3:314 [Mar.] 1953.
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[14] Delaware State Med. J. 25:55 [Mar.] 1953.
[15] J. A. M. A. 154:1392 [April 17] 1954.
[16] A. M. A. Am. J. Dis. Children 85:675 [June] 1953.
[17] A. M. A. Am. J. Dis. Children 84:757 [Dec.] 1952.
[18] Ann. Allergy 11:555 [Sept.-Oct.] 1953.
[19] New York State J. Med. 54:231 [Jan.] 1953.
[20] Med. Times 80:666 [Nov.] 1952.

Usually stem and root vegetables are cut across the grain in thin slices or julienned diagonally.

Careful control of heat and of timing on the top-of-the-stove cooking, without the aid of mechanical devices such as the thermometer, is very important, not only for the preservation of food nutrients but also for the glorification of flavor and for retaining the characteristic texture and color of each ingredient. Consequently, the use of several cooking methods in the making of one dish is a common procedure. Ingredients may be added at various stages in cooking, or they may be cooked separately by different methods and assembled into one dish. When this is done, cooking of all ingredients is timed so as to be done simultaneously for assembling into the finished dish. For example, roast-duck-pea-pod-toasted noodle, short-rib lotus root, and winter-melon squab are prepared in this way.

Baked and frozen products are not used in China as they are in America and Europe. Ovens, pressure cookers, refrigerators, freezers, and mechanical devices such as an electrical toaster or rotary beater, are rare or even not available in Chinese kitchens. Thus the main issues in constructing recipes for Chinese dishes are not greatly different from those confronting the Americans and Europeans before the twentieth century. Chinese table appointments also differ from those in America and Europe. Serving portions are prepared for the use of chopsticks, and no knives appear on the table. This also influences cooking methods.

NUTRITIONAL VALUE OF DIET

The consumption of cow's milk among the Chinese people is negligible. Although there are some cows in China, one does not find the herds which in Western lands provide a large supply of fresh milk. Milk must, in fact, be imported into China from other countries, either as fresh milk or in one of the processed forms. Milk from such sources is limited in amounts and expensive in cost, with the result that only a small percentage of Chinese people find milk available to them.

The Chinese traditionally build their dietaries chiefly around vegetables and supplement them with eggs and meat from poultry, hogs, and sea food. Therefore, unless these foods of animal origin, which are relatively expensive, can be used in sufficient quantities, the Chinese diet is likely to lack proteins of high biologic value, fats and lipoids, and certain of the vitamins. The vegetables which figure so prominently probably supply minerals and some vitamins in satisfactory, although not liberal amounts. The methods of cooking vegetables, of course, tend to conserve minerals and vitamins which otherwise would be sacrificed to some extent in the cooking water. The prominent use of soybeans, soybean curd, and soybean milk goes a long way in supplying protein of good nutritional value. However, in spite of these facts, the introduction of cow's milk on a wider scale in Chinese diets would guarantee the correction of any imbalance of nutrients, especially in respect to the proteins and lipoids, and also insure adequate, even liberal amounts of calcium and riboflavin.

WAYS TO INCREASE MILK CONSUMPTION

Because of its excellent nutritional value, an investigation was undertaken of ways in which milk might be introduced into Chinese recipes without altering the original character of the cooked food. The taste and aroma of milk are unacceptable to some Chinese; therefore, recipes were selected where there was an opportunity of masking its flavor. Another limiting factor in the choice of recipes was encountered when it was found that milk and soybean sauce could not be heated together very satisfactorily. Traditional Chinese cooking methods were also considered. Milk does not lend itself well to the methods of sautéeing, braising, frying, coddling, steeping, and poaching, or to the long simmering of soups. Recipes using these methods were, therefore, not included in the study. Instead, a selection was made from those that call for liquid or broth in which heated milk could be added just before serving. This was thought to be important in maintaining the full nutritive value of the milk and also to offer a technique that would avoid any danger of the milk curdling.

In addition to the typical Chinese recipes, a few western recipes rich in milk were tested. The bases for selection of these recipes were that the ingredients be available in China proper or in places where Chinese people have settled, that no refrigeration be required, and that only top-of-stove cooking methods be involved.

In all cases, the recipes were tested with fresh whole milk, evaporated milk, dried whole milk, and dried skim milk, in order to cover all forms available in China proper and in Chinese settlements in any part of the world, such as those in New York, San Francisco, Chicago, Boston, Honolulu, Paris, and so on. The evaporated milk and the dried whole milk were reconstituted to the approximate composition of whole fresh milk, and the dried skim milk to provide approximately the same nonfat solids as in whole fresh milk.

All ingredients were measured in the average-sized melon green bowl and the Chinese soup spoon. (These are the nearest Chinese equivalents to the American standard cup and tablespoon.) This forms a common denominator of international understanding and is of value to the immigrant housewife, since the traditional Chinese market scale in units of "ounce" and "catty" differs from that of the American scale marked in ounces and pounds. The weight in grams of each ingredient was noted in order that a comparative study of

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the food value of the products with and without milk might be made. The nutrients considered were protein, calcium, riboflavin, and vitamin A value.

Since there is no available standardization on number of servings from Chinese recipes at present, the American standard of six servings of ½ or ⅓ cup each per recipe was used to facilitate the comparative study of nutritive value and to provide for a common international denominator.

According to these comparisons, the introduction of milk as an ingredient in the Chinese recipes resulted in a marked improvement in the nutritive value of the dishes. The percentage improvements in both calcium and riboflavin were especially outstanding. Since in many original recipes, certain nutrients may have been missing entirely, percentage comparisons were impossible. Examples of this are the original (control) recipes for almond tea, fish rolls, and lotus root cream, all of which are completely lacking in vitamin A value.

A taste panel of three people, two of whom were Chinese, judged all of the dishes. These judges considered that the fifteen recipes listed below gave products that were acceptable when made with all four forms of milk.

Almond tea
Bavarian cream
Bean curd chowder
Chicken à la king
Chicken corn chowder
Corn and potato chowder
Creamed cauliflower
Cream of mushroom soup
Creamed mustard cabbage
Cream of spinach soup
Curried shrimp
Fish rolls
Meat custard
Tapioca cream
Lotus root cream

From the findings of this study, the author believes it would be possible for milk to be an accepted ingredient in some Chinese dishes, thereby contributing toward better nutritional health. She also believes that American dishes rich in milk may be accepted, either with or without modifications, and adopted in the Chinese dietary. The food habits of Chinese in the different localities of China proper and of the overseas Chinese, as well as availability of the milk, would be influencing factors.

Gamma Irradiation of Foods to be Studied

Recently, the Department of Food Technology, Massachusetts Institute of Technology, Cambridge, Massachusetts, received a shipment of the first of a new type of experimental radiation source which used nuclear reactor waste products. This source, which was shipped from Argonne National Laboratory, Lemont, Illinois, will be used for experimental irradiation of foods in commercial-sized containers.

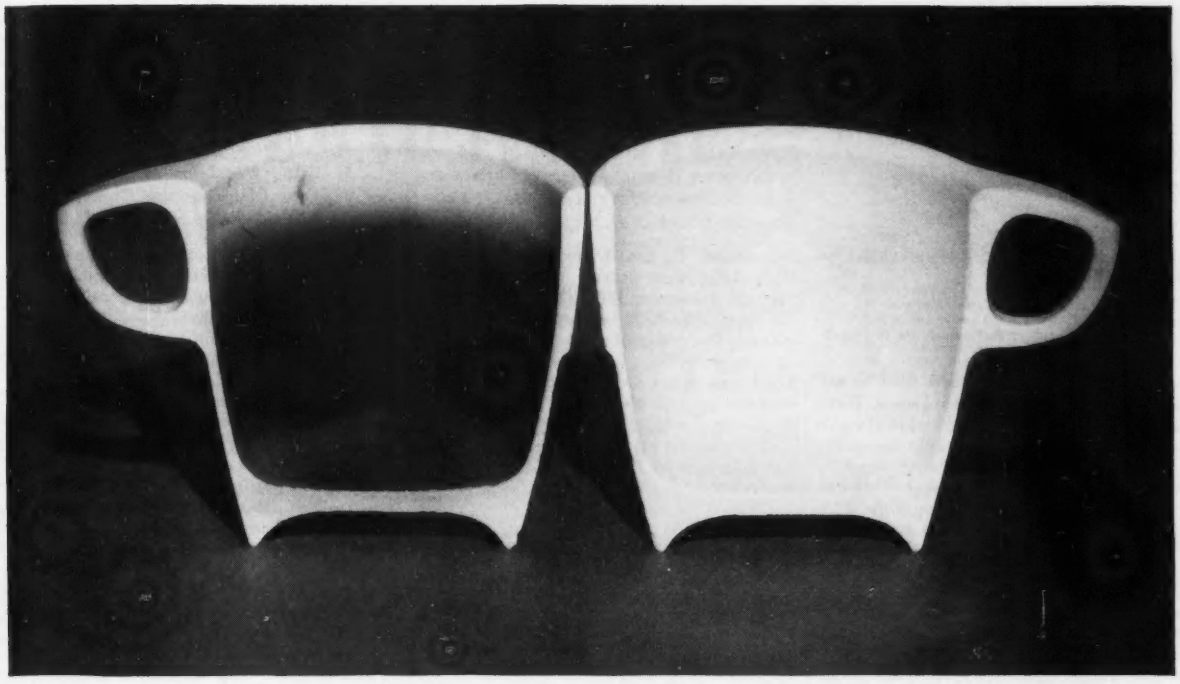
According to Dr. Bernard E. Proctor, Head of the M.I.T. project, the radioactive fission products to be used are a waste product, presumably inexpensive, and they will be used under conditions which for the first time approximate those needed in commercial food production.

The new energy source is equivalent in radiation intensity to several pounds of radium. It is a small hollow cylindrical block of concrete which was prepared by mixing cement with the liquid radioactive fission products (by-products created when neutrons bombard uranium 235 in a nuclear reactor). The highly radioactive cement-fission product mixture is surrounded by several inches of ordinary concrete and a lead shield which is also several inches thick. This shield is necessary to prevent exposure of experimenters to harmful radiation. An opening into the center of the source is provided so that materials to be irradiated may be lowered into the active region. Special automatic equipment to introduce three small-size food cans into the active region of the new source is being built.

The source produces high-energy X-rays, technically known as gamma rays, very similar to those from the radioactive cobalt source which has already been studied at M.I.T., but which is not available in large enough quantities to handle the output of any commercial food producer. Rays from the new source have a lower average energy level and the source has a shorter life than the cobalt used previously.

The research will be devoted to measurements of the gamma rays produced by the new source, to determination of their effects on various foods, and to learning how long the source can be used without renewal.

Dr. Stephen Lawroski, Director, Chemical Engineering Division, Argonne National Laboratory, points out that the new source which uses the waste products of a nuclear reactor is regarded as a significant step forward in developing peacetime uses of atomic energy. He claims three advantages for this type of source: (a) the radioactivity is obtained as a by-product of reactor operations and as such is inexpensive; (b) it provides, in addition, an ideal method of using the highly radioactive waste products which present serious storage or disposal problems; and (c) it provides for experimental use a radiation source of the type and energy which must be used if large-scale food sterilization by irradiation proves to be feasible.



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Current Literature

Contributed by Mildred Bonnell and administrative dietetic interns, University of Washington, Seattle; Janette C. Carlsen and Ethel M. Miller, The Johns Hopkins Hospital, Baltimore; Mary L. Majerus, Dietetic Intern, Veterans Administration Center, Los Angeles; Elizabeth H. Tuft, Wesley Memorial Hospital, Chicago; and the Journal staff

ACTA SOCIETATIS MEDICORUM UPSALIENSIS

Vol. 59, March 31, 1954

* Haemoglobin formation and storage iron in protein deficiency. B. Hallgren.—p. 81.

Hemoglobin Formation and Storage Iron in Protein Deficiency. Rats were fed a synthetic diet in which the intake of both iron and protein could be easily varied. A protein-deficient diet resulted in a slight fall in hemoglobin concentration but a great fall in total hemoglobin. The total hemoglobin diminished more than the carcass protein. Thus, in animals which had not been bled, hemoglobin formation did not appear to have a privileged position over other body proteins in the competition for material for protein synthesis. As the total hemoglobin diminished, the surplus iron was deposited in the stores. The plasma iron was low during protein deficiency even when the stores contained surplus iron. The deleterious effect of the protein deficiency on hemoglobin formation was not greater when the supply of storage iron was short, and a surplus of storage iron did not stimulate hemoglobin formation in protein deficiency. When the supply of dietary iron was inadequate, the nutritional iron-deficiency anemia developed in the same way in low-protein animals as in those on an adequate protein intake. In pure nutritional iron deficiency, the hemoglobin concentration fell to the same extent as the total hemoglobin, and plasma iron began to show a definite fall just as the last remnants of the storage iron in the liver and spleen were exhausted. As the protein content of the diet was reduced, the weight of the adrenals fell parallel with the total hemoglobin. It is suggested that the decrease in total hemoglobin in relation to the carcass protein and the fall in plasma iron, which occur in protein deficiency, are secondary to adrenal insufficiency, itself caused by the protein deficiency. When low-protein animals were treated with ACTH or cortisone, the carcass protein diminished while total hemoglobin remained unchanged. Plasma iron and hemoglobin concentration rose during treatment, with the increase being of the same order as the fall caused by protein deficiency.

Studies were also made of iron storage in human organs. The liver, bone marrow, and spleen may be said to be the most important iron-storage organs of the body. Patients with malignant tumors without hemorrhage often had abundant iron stores, and iron stores were sometimes large in chronic infections. Great variation in the quantity of storage iron even in "normal" persons was found. In healthy young men with well filled iron stores, the total iron storage was estimated to be about 1 gm. In cases of cardiac incompensation with pulmonary congestion, large quantities of non-hemin iron had been deposited in the lungs. When storage iron in the bone marrow approached the deficiency level, this was also the case in the liver. Thus, it is possible to diagnose iron deficiency by determining the storage iron in the marrow.

THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES

Vol. 227, May, 1954

Weight reduction: a study of the group method: report of progress. H. I. Harvey, and W. D. Simmons.—p. 521.

THE AMERICAN JOURNAL OF MEDICINE

Vol. 16, May, 1954

* Viral hepatitis. Problems and progress to 1954. J. R. Neefe.—p. 710.
* Vitamin A poisoning in adults. A. Gerber, A. P. Raab, and A. E. Sobel.—p. 729.

Viral Hepatitis. Available information concerning the etiology and epidemiology of viral hepatitis, including both infectious hepatitis and homologous serum hepatitis, is reviewed and evaluated. The clinical manifestations of the disease are considered primarily in respect to those infections which present problems in diagnosis and/or which deviate from the usual course of prompt and spontaneous recovery. Most patients will recover fully and completely with no treatment other than restriction of physical activity during the active stages of the disease and a high-calorie, high-protein, high-carbohydrate, moderate-fat diet. However, all patients should be treated for a potentially fatal or serious disease until proved otherwise. As the result of recent studies in U. S. Army troops in Korea, the optimal diet in infectious hepatitis consists of about 3000 calories containing approximately 150 gm. each of protein and fat. Intakes above this level should be ad libitum. Although fried and greasy foods may cause indigestion, the fat contained in meat, eggs, and dairy products is not harmful and adds greatly to the palatability of the diet. During the state of severe anorexia, the patient should be urged to take frequent small feedings. Intravenous glucose solutions should be administered when necessary to maintain minimal caloric and fluid intake. Although the forcing of a high-protein, high-fat diet, by stomach tube if necessary, has been demonstrated to hasten recovery, critically ill patients with fulminating disease or impending hepatic coma may be harmed by excess dietary protein. In such patients, therefore, it is probably unwise to administer more than a maintenance quantity of protein. Intravenous protein hydrolysates and plasma or blood transfusions have no place in the nutritional therapy of patients with uncomplicated infectious hepatitis. Transfer of these principles of therapy for the management of acute viral hepatitis in military service to the treatment of patients encountered in civilian practice must be modified by discretion. When the disease is acquired by older persons with other associated diseases, bed rest probably should be maintained until the descending icteric phase is well established and the patient is completely asymptomatic.

Vitamin A Poisoning. A case of chronic hypervitaminosis A in a twenty-eight-year-old white woman is described. Over a period of eight and a half years the patient was allowed to continue daily the consumption of 500,000 I. U. vitamin A because of the supposed beneficial effects on "ichthyosis" of the skin. When the clinical diagnosis of hypervitaminosis A was finally proposed, a fasting vitamin A blood level of 2000 mcg. per 100 cc., the highest ever recorded, was disclosed. Clinical improvement in the neurologic, skeletal, and skin manifestations took place rapidly on stoppage of excess vitamin A intake. Treatment with massive doses of vitamin A now recommended in many clinical conditions must be reviewed from the standpoint of potential toxicity. If these large doses are to be used, rest periods should be instituted and determinations made of the vitamin A blood level. Self-medication with vitamin concentrates containing large doses of vitamin A is common, due to the general belief by the laity that vitamins improve health and increase resistance to infection.

AMERICAN JOURNAL OF PUBLIC HEALTH

Vol. 44, May, 1954

* Technics used to obtain proper planning in food and food handler sanitation. E. R. Jackson.—p. 635.

Planning Effective Food and Food Handler Sanitation. This article deals with the following aspects of effective food service sanitation: securing and adopting uniform regulations; developing an effective enforcement program; gaining the support of and educating the industry; establishing a local board of review; educating local government officials; gaining health department representation at council meetings; educating the public; and using surveys.

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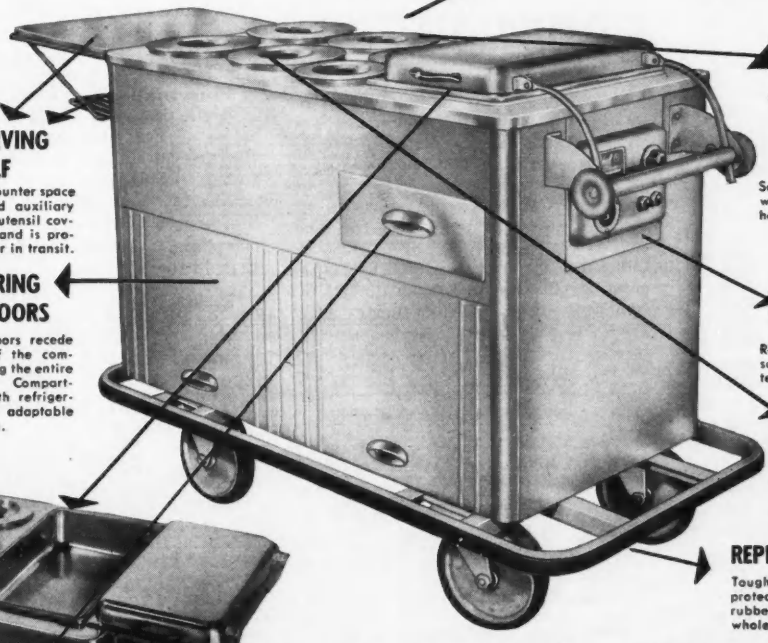

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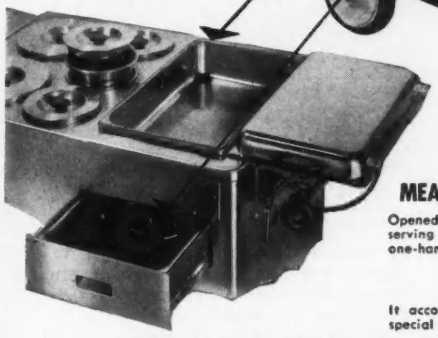

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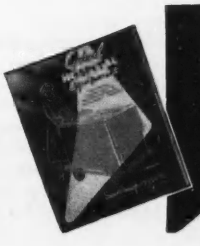

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ANNALS OF INTERNAL MEDICINE

Vol. 40, May, 1954

* Steady weight. Editorial. M. C. Pincoffs.—p. 1049.

Steady Weight. Many normal adults unconsciously regulate their food intake to maintain a constant weight for many years. Medical speculation concerning the mechanisms involved date back many centuries. Animal experimentation has led to the conclusion that the lateral centers of the hypothalamus are concerned with food intake and the sensation of appetite, and that the median centers exert an inhibitory influence on eating, paralleled, perhaps, by the sense of satiation. The level of the blood sugar is thought to be the factor which activates these centers to balance the energy intake against the energy output.

BRITISH MEDICAL JOURNAL

No. 4870, May 8, 1954

* Epidemic of infective hepatitis in an Oxford college. G. A. Ballance.—p. 1071.

No. 4872, May 22, 1954

* Treatment of pernicious anemia with oral vitamin B_{12} without known source of intrinsic factor. J. N. M. Chalmers and Z. M. Hall.—p. 1179.

Infective Hepatitis at Oxford. During the summer of 1950 an explosive outbreak of infective hepatitis occurred in one of the smaller colleges of Oxford University. Evidence was obtained from which it was reasonable to deduce that this was a food-borne epidemic, the vehicle of infection having been custard served at a dinner and lunch on consecutive dates. No certain source of contamination of the custard was discovered. The attack rate among those exposed was about one in three. The incubation period ranged between twenty-three and forty-three days. A histogram constructed from the number of cases occurring each day showed an approximately symmetrical distribution about a single peak, and corresponded to a mean incubation period of thirty-and-one-half days with a standard deviation of three-and-one-half days. The epidemic showed no unusual clinical features. In most cases the pre-icteric stage consisted of a well-marked febrile episode. No cases of hepatitis, without obvious bile-staining of the skin or urine, were detected with certainty. The icteric stage varied greatly in severity and duration. Convalescence was frequently prolonged.

Treatment of Pernicious Anemia. Patients with megaloblastic anemia in relapse who were given single oral doses of 2000 to 9000 mcg. vitamin B_{12} showed initial hematologic responses similar to those obtained by a single intramuscular injection of 20 to 100 mcg. Daily oral doses of 50 mcg. taken when fasting caused significant hematologic response. A less satisfactory response was obtained when the same dose was taken with food. The surface agent "Tween Twenty" did not appear to be of value in aiding absorption of vitamin B_{12}. One patient with pernicious anemia in relapse has been initially treated and maintained in remission for over eighteen months on a dose of 50 mcg. oral vitamin B_{12} taken daily on retiring. While intramuscular preparations are preferable and more convenient for routine management, it is concluded that, without intrinsic factor, oral vitamin B_{12} can be utilized when taken by fasting patients suffering from pernicious anemia and that clinical and hematologic remission can be obtained with oral vitamin B_{12} alone.

INDUSTRIAL MEDICINE AND SURGERY

Vol. 23, April, 1954

* Enteritis in industrial medicine. L. E. Devlin.—p. 166.

Enteritis in Industrial Medicine. Diarrhea is recognized as a prime cause of absenteeism. Cases should be classified as to occupational and non-occupational origin for statistical and legal reasons. Treatment should be started promptly while the employee is on the job, and he should be referred to his family doctor when the diarrhea persists. Psychosomatic causes of diarrhea can be reduced by the proper instruction of supervisory personnel in human relations. Carob flour (Arobon) in the form of wafers or powder is the most effective anti-diarrheal agent used in industrial medicine and in nearly all cases is effective. Although it does not replace specific therapy, dietary management, rest, and common sense it can be used along with any of these to advantage. Industrial hygiene and proper sanitation of cafeterias will eliminate most cases of occupational diarrhea.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

Vol. 155, May 8, 1954

* Nutrition in prenatal care. F. E. Whitacre.—p. 112.
* Vitamin medication in alcoholism. M. F. Trulson, R. Fleming, and F. J. Stare.—p. 114.

Fortified foods. Editorials and Comments.—p. 127.

* How to kill Endamoeba histolytica cysts on vegetables. Queries and Minor Notes.—p. 221.

Vol. 155, May 15, 1954

* Dry and brittle fingernails. Queries and Minor Notes.—p. 323.

Nutrition in Prenatal Care. The article stresses the importance of nutrition during pregnancy. It seems clear that a well balanced diet is essential to the welfare of both mother and child. A nutritional deficiency does not imply that the patient is undernourished from the standpoint of her weight but rather that the essentials for her protection were not present in her food intake. A high-protein, low-carbohydrate diet is recommended. The essentials of dietary intake must be present in adequate, but not excessive amounts.

Vitamin Medication in Alcoholism. A study made of the treatment of alcoholism by means of dietary supplements indicates that some persons are benefited by vitamin therapy. Of the 32 patients who took part in the study for 13 months or more, 25 had vitamin medication and 7 continued with placebos. Of those taking vitamins, 7 patients were abstinent, 7 were controlled, 2 were improved, and 9 showed no change, while of those taking placebos, one was abstinent and 6 showed no change. Although the results do not suggest optimism with respect to widespread benefits to be derived from presently available medication, they do indicate that further research is warranted.

Killing Endamoeba Histolytica on Vegetables. Under ideal conditions, as little as 4 p.p.m. free chlorine will destroy the cysts of endamoeba histolytica after 30 min. The presence of organic matter, and its varying nature under field conditions, preclude sole dependence on the cysticidal properties of chlorination. As a means of "sterilizing" fresh fruits, lettuce, and other vegetables, strong solutions of bleaching powder containing at least 100 to 200 p.p.m. free chlorine should be used. Subsequent washings should be done with safe water. A level teaspoonful of good bleaching powder added to a gallon of water makes approximately a strength of 100 p.p.m. free chlorine.

Fingernails. Two doctors give their opinions on possible causes and treatment of dry and brittle fingernails. Both concur in the opinion that nutritional deficiencies may be possible causes. A high-protein, high-vitamin diet in such a case is prescribed. If the complaint is due to a thyroid deficiency, thyroid therapy, maintenance of a good blood cell count, and a high-protein diet which furnishes iron, calcium, and vitamins is recommended. The important vitamins are A, D, and the B-complex.

THE JOURNAL OF CLINICAL INVESTIGATION

Vol. 33, April, 1954

* The effects of resistance exercises on the nitrogen, phosphorus, and calcium metabolism of patients with rheumatoid arthritis. W. S. Clark, A. L. Watkins, H. O. Tonning, and W. Bauer.—p. 505.
* A study of the mechanism of proteinuria in patients with the nephrotic syndrome. F. P. Chinard, H. D. Lauson, H. A. Eder, R. L. Greif, and A. Hiller.—p. 621.
* Studies on copper metabolism. XI. Copper and iron metabolism in the nephrotic syndrome. G. E. Cartwright, C. J. Gubler, and M. M. Wintrobe.—p. 685.

Exercises and Metabolism in Arthritic Persons. Muscle weakness and atrophy are common and disabling manifestations of rheumatoid arthritis for which various types of active exercises are usually prescribed. It is well known that active exercises result in substantial increases in muscle mass and power only when performed repeatedly against resistance with considerable physical effort. Although physical activity has been reported to have a protein-anabolic effect and to cause calcium retention in normal subjects, the metabolic responses to exhaustive physical exertion during active rheumatoid arthritis have not been investigated. These studies were undertaken to determine the effects of heavy resistance exercises on nitrogen, phosphorus, and calcium metabolism in such patients. Resistance exercises resulted in a protein anabolic effect in two patients with active rheumatoid arthritis and a decreased excretion of calcium in one. The same effects were observed in one subject during the administration of testosterone. However, exercise

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did not alter the excretion of 17-ketosteroids in the one patient on whom such determinations were made.

Mechanism of Proteinuria. The renal clearance of albumin has been studied in patients with the nephrotic syndrome. The minimum concentration of albumin in the glomerular fluid was calculated from the rate of excretion of albumin and the endogenous creatinine-like chromogen clearance. The concentrations, adjusted to the values which, other factors remaining constant, would obtain at the normal plasma albumin concentration of 4.0 gm. per 100 ml., were considerably greater than the 25 to 30 mg. per 100 ml. assumed to be normally present. It is concluded that proteinuria in these patients occurs as the result of an increase in the permeability of the glomerular capillary walls to protein rather than solely as the result of a decrease in the reabsorption of protein by the tubules.

Mineral Metabolism in Nephrosis. Hypocupremia was observed in 13 of 16 patients with the nephrotic syndrome and hypoferremia in 10 of the 16. The mean plasma copper level was 64 ± 20 mcg. per 100 ml. as compared with 116 ± 14 mcg. in normal subjects. The mean plasma iron value was 50 ± 38 mcg. per 100 ml. as compared with normal mean of 110 ± 21 mcg. The total iron binding capacity of the plasma, determined in seven patients, was found to be reduced in all seven. The mean value was 78 mcg. per 100 ml. as compared with the normal of 359 mcg. Patients with the nephrotic syndrome were found to excrete increased quantities of copper and iron in the urine. The copper and iron were not dialysable and the amount excreted was correlated with the urinary protein. Approximately 31 mcg. copper and 53 mcg. iron were excreted per gram of protein. However, following the intravenous administration of albumin there was a marked increase in the degree of proteinuria but only a slight increase in copper and iron excreted. Hypocupremia was not observed in patients with uremia or hypoalbuminemic states other than the nephrotic syndrome. Hypoferremia was observed in a few patients with these conditions. It is suggested that the hypocupremia and the hypoferremia associated with the nephrotic state are in part, at least, the consequence of the loss of ceruloplasmin and transferrin in the urine. However, the possibility that there is impairment in the rate of synthesis of these two metal-binding proteins in some patients cannot be ruled out. Red blood cell copper was found to be reduced in three of five patients in whom this determination was made. The anemia failed to respond to the administration of copper in a limited number of patients.

THE JOURNAL OF CLINICAL NUTRITION

Vol. 2, March-April, 1954

* Nutritional studies of vegetarians. 1. Nutritional, physical and laboratory studies. M. G. Hardinge and F. J. Stare.—p. 73.
* Nutritional studies of vegetarians. 2. Dietary and serum levels of cholesterol. M. G. Hardinge and F. J. Stare.—p. 83.
* The effect of vitamin supplementation on soldiers residing in a cold environment. Part I. Physical performance and response to cold exposure. R. Ryer, III, M. I. Grossman, T. E. Friedemann, W. R. Best, C. F. Consolazio, W. J. Kuhl, W. Insull, Jr., F. T. Hatch, and the staff of the U. S. Army Medical Nutrition Laboratory.—p. 97.

Vitamins in dermatology. E. S. Bereston.—p. 133.

Nutritional Studies of Vegetarians. A comparative study of 112 vegetarians and 88 non-vegetarian adults, adolescents, and pregnant women is described. The results show that although the dietary intake of nutrients varied widely among individuals, the average intake of all groups, with the exception of the adolescent "pure" vegetarian, approximated or exceeded the amounts recommended by the National Research Council. Non-vegetarian adolescents consumed significantly more protein than did "lacto-ovo" and "pure" vegetarian adolescents. No evidence was obtained to indicate that a lacto-ovo-vegetarian diet failed to provide an adequate dietary for an expectant mother.

The cholesterol intakes, as determined by calculation and serum cholesterol measurements of a limited number of "pure" vegetarian, lacto-ovo-vegetarian and non-vegetarian pregnant women, adolescents, and adults of both sexes are also reported. The dietary cholesterol was higher in the non-vegetarian groups than in the lacto-ovo-vegetarian groups. The "pure" vegetarians' diet is cholesterol-free. Serum cholesterol levels of the adult vegetarian groups tended to be lower than the adult non-vegetarian, the "pure" vegetarians having the lowest values. Cholesterol levels were more closely correlated to the intake of animal fat than of total fat.

Vitamin Supplementation in a Cold Climate. An experiment to study the effect of vitamin supplementation on physical performance while residing in a cold climate was performed at Pole Mountain, Wyoming, using 86 soldiers as test subjects. The control group received a capsule containing 6 mg. ascorbic acid four times a day. Four times daily, the supplemented group received capsules containing 10 mg. thiamine, 10 mg. riboflavin, 100 mg. niacinamide, 80 mg. calcium pantothenate, 40 mg. pyridoxine, 2.5 mg. folic acid, 300 mg. ascorbic acid, and 4 mcg. vitamin B_{12}. Physical performance was measured about once a week. There was no statistically significant difference between the two groups in the degree of improvement of performance. A caloric deficit of 1200 calories per day for twenty-two days did not lead to detectable impairment of physical performance.

THE JOURNAL OF NUTRITION

Vol. 52, April 17, 1954

* Comparison of fructose and glucose in the diet of alloxan-diabetic rats. H. P. Sarett and L. P. Snipper.—p. 525.
* The effect of fat level of the diet on general nutrition. XI. The protective effect of varying levels of ethyl linoleate against multiple sublethal doses of x-irradiation in the rat. A. L. S. Cheng, M. Ryan, R. Alfin-Slater, and H. J. Deuel, Jr.—p. 637.

Vol. 52, April, 1954, Supplement

* Physiological adaptation and nutritional status during and after pregnancy. I. G. Macy, E. Z. Moyer, H. J. Kelly, H. C. Mack, P. D. DiLoreto, and J. P. Pratt.—p. 3.

Fructose and Glucose in the Diet of Alloxan-Diabetic Rats. Alloxan-diabetic rats maintained on a diet containing either fructose or glucose were observed. The animals kept on a fructose-containing diet excreted less urine and less urinary carbohydrate than did the same animals on a glucose-containing diet. The fructose-fed animals consumed slightly less food and markedly less water; and their livers were significantly larger.

Protective Effect of Fat Against Irradiation. Previous studies which had demonstrated the protective effect of linoleate raised the question of whether the protective action of essential fatty acids is related to the amount ingested in the same manner as growth is related to this factor, or whether only catalytic amounts are required to initiate this action. Fat-depleted animals were fed varying amounts of ethyl linoleate and then subjected to x-irradiation. Survival curves for the rats receiving the lineolate were in direct proportion to the amount of supplement, with the percentage survival being greater in all cases for rats receiving linoleate and the survival time being longer as the amount of linoleate was increased. Optimum linoleate dosage for survival following x-irradiation appeared to exceed 100 mg. per day in male rats. Thus it would seem that the optimum quantity of linoleate required for protection against x-irradiation and to produce growth are within the same range.

Nutritional Status in Pregnancy. An extensive investigation of the nutritional status of pregnant women (378 white and 686 Negro), which included clinical observations, medical histories, food intakes, and microchemical determinations of hemoglobin, serum total protein, ascorbic acid, vitamin A, carotenoids, and alkaline phosphatase, is reported. The subjects came from three sources of varying socio-economic status and were classified accordingly: a public, prenatal clinic for low-income and indigent populations, a private, prenatal clinic for families of moderate means, and a group of private patients characterized as middle-class with a few wealthy individuals. To determine normal means and ranges for the blood components during successive stages of pregnancy, a total of 1761 blood samples were taken from the white women and 2005 samples from the Negro subjects. A total of 265 samples of blood from the white babies of these mothers and 467 samples from the Negro newborn infants were also analyzed.

Indications are that normal blood standards may be altered by several factors, such as socio-economic status, race, prenatal care, and nutritional status. The medial blood concentrations of the infants were higher in hemoglobin and ascorbic acid, but lower in total serum protein, vitamin A, and carot-

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enoids than those of their respective mothers, whereas alkaline phosphatase concentrations were similar for mother and infant.

Twice as many of the white patients' diets in the lower socio-economic group were classified as incompatible with health as those of white subjects in the higher income brackets, inasmuch as the nutrient intake was less than 60 per cent of the Recommended Dietary Allowances, a level at which inadequacies of the essential nutrients for many women under the stress of pregnancy might be expected. All of the Negroes, including those who had normal pregnancies, had substandard dietary ratings comparable to the low-income white women. These dietary ratings were verified by the more objective blood concentration levels for several components at each trimester of pregnancy, after delivery, and of the newborn infants.

THE LANCET

No. 6818, May 1, 1954

* Hypochromic anemia in R.A.F. recruits. B. J. Leonard.—p. 899.

Idiopathic Hypochromic Anemia in Young Men. Idiopathic hypochromic anemia is common in young men, and is the commonest form of anemia in R.A.F. recruits. Of 50 cases of hypochromic anemia found among 4221 recruits, 47 could be regarded as idiopathic. Most of these fifty patients came from large working-class families. Symptoms were rare, even with severe anemia. The incidence of histamine-fast achlorhydria in hypochromic anemia in young men is the same as in middle-aged women with this type of anemia. The associated histamine-fast achlorhydria was reversible in six of thirteen cases. Early detection and treatment of the anemia are important for the well-being of the gastric mucosa. The bone-marrow findings showed that the typical picture is one of moderate normoblastic hyperplasia. Treatment with intravenous iron was safe, efficient, and reliable. After treatment, nearly all of the patients experienced a sense of well-being, more energy, and increased interest in life.

NURSING OUTLOOK

Vol. 2, May, 1954

* Staff conferences can be fun. H. M. Oppenheimer, L. Weiner, and L. Z. Tuttle.—p. 246.

Staff Conferences. The staff at the Central Harlem Branch of the Visiting Nurse Service of New York held a series of staff conferences to discuss techniques of interviewing. The group felt the conferences improved service to patients. Through the conferences, they developed a better understanding of each other by working so closely together.

NUTRITION REVIEWS

Vol. 12, May, 1954

* Early experiences in protein nutrition—a retrospect. J. R. Murlin.—p. 129.
* Effects of protein addition to low caloric diets.—p. 134.
* Dietary intake and alcoholism.—p. 142.
* The lipotropic effect of threonine.—p. 151.
* Fluorine: essential nutrient?—p. 156.

Early Experiences in Protein Nutrition. Dr. Murlin describes his early experiments in this field. Projects included the study of nitrogen balance during menstruation and pregnancy in the dog. Studies were also made on pregnant women. Many researchers were led astray because they had not kept nitrogen balances on their pregnancy cases. When this was done, it became apparent that the lowest percentage of urea nitrogen occurs simultaneously with greatest nitrogen retention by the fetus.

Added Protein in Low Caloric Diets. The addition of protein to a low caloric diet was not beneficial. This underlines the importance of total caloric intake as a protein sparer. When a considerable caloric defect exists, amino acids are used almost exclusively as a source of energy.

Dietary Intake and Alcoholism. Studies were made to determine the effect of diet on alcohol consumption. Results showed that a combination of reduced caloric intake and thiamine deficiency does not increase the intake of alcohol, although reduction in calories alone clearly increases it. These studies were conducted on rats.

Lipotropic Effect of Threonine. Experiments have demonstrated a lipotropic effect for threonine which is dependent on the presence of choline in the diet. The mechanism of the threonine effect is not known. It may be related to the synthesis of enzymes which function in phospholipid synthesis or in fatty acid oxidation.

Fluorine: an Essential Nutrient? No final answer is available to the question of whether fluorine is an essential nutrient. On the basis of two studies, there is no reason to accept either the essentiality of fluorides for rat growth or the toxicity of comparable low amounts of fluorides in the second generation.

PHYSIOLOGICAL REVIEWS

Vol. 34, April, 1954

Role of wheat and wheat products in human nutrition. D. M. Hegsted, M. F. Trulson, and F. J. Stare.—p. 221.

PUBLIC HEALTH REPORTS

Vol. 69, May, 1954

* Unknowns in vitamin C. L. J. Harris.—p. 429.
* A milkborne outbreak of shigellosis in Madison County, Tenn. C. B. Tucker, G. C. Fulkerson, and R. M. Neudecker.—p. 432.
* Measuring reader comprehension of a preschool pamphlet. M. Ford and E. E. Hartman.—p. 498.

Ascorbic Acid. Studies have shown that there are certain gaps in our knowledge of ascorbic acid. The author suggests that, in the future, particular consideration be given to (a) the quantitative requirements for ascorbic acid; (b) the reason for its apparently uneven distribution; and (c) the detailed nature of the specific biochemical system or systems in which the vitamin functions and the derangement of which presumably leads to scurvy.

Milkborne Outbreak of Shigellosis. This article reports the methods used in tracing the cause of an outbreak of shigellosis in Madison County, Tennessee, in October 1952. Histories were obtained from those stricken and the milk plant was investigated. It appeared that milk contaminated with *Shigella sonnei*, type 1, was delivered to the plant and improperly pasteurized. This was an example of poor milk sanitation and illustrates the importance and need for legal authority by the health department in the operation of milk sanitation programs.

Measuring Reader Comprehension. The Minnesota Department of Health prepared a brief brochure titled "Getting Your Child Ready for School." The pamphlet was tested before distribution for readability. A questionnaire was constructed to learn whether people would understand and correctly interpret the information. These research methods made it possible to test the material at a point where changes could still be made to insure the effectiveness of the pamphlet.

THE ROYAL SANITARY INSTITUTE JOURNAL

Vol. 74, May, 1954

* Heat treatment of milk within the bottle. E. L. Crossley.—p. 307.

Pasteurizing Milk in the Bottle. The in-bottle process of milk pasteurization possesses the following features: all post-pasteurization contamination is eliminated; the process is completely safe; labor, time, and cost of plant cleaning are greatly reduced; it yields pasteurized milk of a superior bacteriologic standard and keeping quality. Investigations showed that the in-bottle pasteurized milk contained fewer total bacteria, many fewer coliform organisms, and had a longer keeping quality than milk pasteurized by usual methods. Disadvantages of the process appear to be mainly financial. There is also the problem of keeping consistent good quality.

SCIENCE

Vol. 118, May 14, 1954

* Experimental dental caries. IV. The effect of feeding desiccated thyroid and thiouracil on dental caries in rats. J. C. Muhler and W. G. Shafer.—p. 687.

Effect of Desiccated Thyroid and Thiouracil on Caries in Rats. Results of this experiment indicate that desiccated thyroid reduces the incidence of dental caries to the same degree as sodium fluoride alone, while desiccated thyroid plus fluorine reduces caries by approximately 55 per cent more than either agent alone. When the activity of the thyroid gland was markedly decreased through the administration of thiouracil, caries in the rat were decidedly increased. The addition of 20 p.p.m. fluorine to the drinking water of animals receiving thiouracil was without effect on caries. The evidence appears convincing that the activity of the thyroid is related in some manner to caries incidence in rats.

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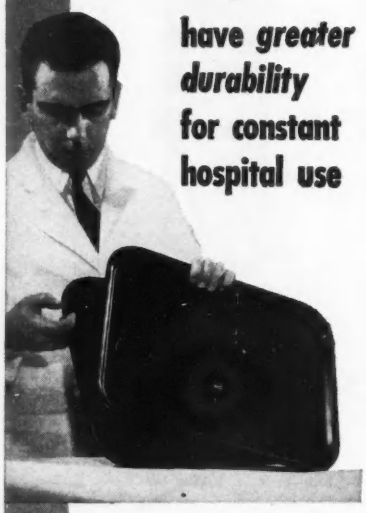

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SOUTHERN MEDICAL JOURNAL

Vol. 47, June, 1954

• Cholesterol in the pathogenesis of arterial lesions. R. L. Holman.—p. 537.

Cholesterol in Arterial Diseases. The relation between exogenous and endogenous cholesterol metabolism is governed in part by dietary intake of fat and total calories. This relationship in man is controlled by large safety valves, presumably hormonal in nature, that must fail collectively or in sequence before basic levels of plasma and tissue cholesterol become altered. Once cholesterol becomes concentrated in interstitial spaces, there results a chronic lipogranulomatous response that may simmer on for years or decades. This process in the inner layer of the arterial system forms the basis for atherosclerosis. The fundamental question is: how does the cholesterol and other lipids become concentrated in the interstices of the arterial walls? The evidence derived in animal experimentation cannot be seen in human data. Experimental arterial lesions in dogs related to high-fat diets and renal insufficiency have been prevented by the addition of cholesterol to the diet. In a recent study of juvenile atherosclerosis, ninety-six cases revealed the presence of aortic atherosclerosis beyond the age of three years, but it is unlikely that primary disturbance in cholesterol metabolism occurred at this early age.

AMERICAN RESTAURANT MAGAZINE

Vol. 38, June, 1954

• Cuts down costs with cut-up turkey.—p. 56.

ABC's on school lunchroom operations.—p. 60.

• There are times when it's important to be in hot water.—p. 104.

Roasting Cut Up Turkey. A restauranteur in Milwaukee has found it more profitable to cut up turkey and roast it by the piece than to roast the whole bird. The drumsticks, thighs, breast, and wings are removed, and the drumsticks and thighs frozen until enough have accumulated to feature as a special on the menu. The breast meat and boned thigh meat are rolled and roasted in dry heat with no grease or basting. Almost half of the former oven time is saved by this method. The remaining carcass, after proper treatment is boiled slowly. From a 28-lb. bird about 1¼ lb. of stripped, cooked meat is obtained from the carcass for use in turkey pies or meat loaves, and from the broth a delicious turkey soup is made. Giblets, too, are used for specialties on the menu. Cost figures per bird and per serving are detailed in the article, as well as the weekly time schedule which spreads the tasks required in handling turkey over several days.

Hot Water for Dish Sanitizing. Requirements for booster heaters which provide 180°F. rinse water for sanitizing are discussed in this article. Authorities point out that the number one sanitation violation of most restaurants is a lack of sufficiently hot water for rinsing dishes. With rinse water at the recommended 170° to 180°, piping hot dishes can be produced which dry instantly, eliminating the need for toweling and thus reducing labor and tableware costs. An expensive mistake is to keep the general hot water heater set at 180°, for such a high temperature rapidly destroys tanks not specially made for this job. There is also the probability that an employee or customer, using a hot water faucet in the kitchen or restroom, may be scalded. Also, this temperature is too hot for washing dishes; dishwashing water should be 140° for manual washing but can be as high as 150° for machines. For rinse water of 180°, a separate heater and storage tank; two-stage heaters; or auxiliary or booster heaters may be used. Requirements of the National Sanitation Foundation for booster heaters are given, as well as capacities for different sized operations and illustrations of four manufacturers' booster heaters.

COLLEGE AND UNIVERSITY BUSINESS

Vol. 16, June, 1954

• Setting up a maintenance plan for food service equipment. R. Telder.—p. 49.

Maintenance Plan for Equipment. At Michigan State College, a maintenance plan for food service equipment has been worked out to meet five objectives: (a) maintain equipment at maximum efficiency; (b) increase the longevity of the equipment; (c) reduce repair bills; (d) decrease breakdowns during peak-load operation; and (e) improve the appearance of equipment to promote better working conditions. To fulfill these objectives, maintenance must become a regular practice and employees must cultivate these habits. To promote these habits, a plan of group discussion has been carried out to teach employees the purpose of the program and encourage their cooperation. A second part of the maintenance program is the employment of one full-time, mechanically capable person to develop a preventive maintenance program carried out in a regular routine manner. Eight suggestions for setting up a perpetual routine maintenance program are given, and six examples of startling misuse of equipment are detailed.

FOOD SERVICE

Vol. 16, May, 1954

• The frozen food trend is upward. W. Schori.—p. 24.

• The story of frozen desserts. J. Englund.—p. 25.

The freezing way to pie profits. L. McCormick.—p. 28.

The cream in your coffee.—p. 39.

Frozen Food Trends. Yearly increases of 10 to 15 per cent have occurred in the frozen food industry. Among the food service operators interviewed, the majority contended that they would use more frozen foods but were restricted at this time by the lack of proper frozen storage facilities. The reason for the growing field may be summarized by uniform quality, portion

INSIDE SCIENCE

The Vital Story of VITAMIN C

by Science Writer

What does vitamin C do for human beings?

Medical research shows that it is essential in maintaining healthy bony tissue and for the formation of collagen which is the main supportive protein of skin, tendon, bone, cartilage and connective tissue. It is needed for vascular function and tissue respiration and in promoting the healing of wounds. In lactating women it has great importance in providing the infant with a sufficient amount of ascorbic acid to prevent scurvy, a disease to which very young babies are susceptible.

Much evidence is available in medical reports to show that a lack of this vital nutritive element can result in impaired health. And in those cases of frank scurvy which still occur, ascorbic acid is the specific medication.

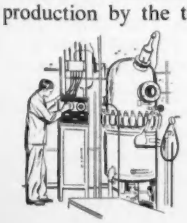
History. The history of vitamin C is fascinating. Scurvy, known for centuries, was once the most prevalent disease in Europe. It afflicted the Crusaders, decimated the crews of voyagers and armies, and plagued the colonists of the New World. In the 18th Century the antiscorbutic value of fresh vegetables and citrus fruits was recognized.

Isolation. It was not until 1918-25 that almost pure ascorbic acid was concentrated from the lemon by Zilva and its important properties and molecular composition established. In 1927 he concluded that this so-called "reducing factor" and the antiscorbutic principle were closely related. In 1928, Szent-Györgyi, who started investigations in 1921, isolated a strong reducing compound from adrenal glands, oranges, and cabbage and termed it "hexuronic acid."

Chemistry. The "reducing factor," "hexuronic acid," and vitamin C were all identified as the same in 1932 by various groups of workers. This was one year after C. G. King, by methods of organic chemistry and experimental physiology, established the chemical identification of vitamin C, thus fulfilling Budd's prediction of 90 years earlier that the antiscorbutic property of certain foods would ultimately be discovered to be a definite substance.

Synthesis. In 1933 Reichstein and his colleagues in Switzerland successfully synthesized ascorbic acid. Almost simultaneously in England Haworth and associates accomplished the same. The Reichstein synthesis formed the basis for large scale commercial production by the world-famous firm of Hoffmann-La Roche.

Production. Following these discoveries came the establishment of manufacturing operations so that today daily production by the tons is the rule. The figures are really staggering. The amount produced weekly in the U. S. A. averages over 15 tons, equivalent to that contained in over 200 million oranges. It is remarkable that ascorbic acid can be produced synthetically and sold for only about $21. per kilogram. One kilo is sufficient to supply 92 people for one year with the minimum daily requirements set by the U. S. Food and Drug Administration.



Vitamin C made by the Roche process is identical chemically and in biological activity with Nature's own product. Because vitamins can be manufactured at a much lower cost than if they were extracted from natural sources they are widely used in dietary supplements and pharmaceuticals. In fact, "New and Non-official Remedies," a publication of the American Medical Association for use by physicians states: "All pure ascorbic acid used in pharmaceutical products is prepared synthetically."

Ascorbic acid is present in many foods. Nature supplies some with lavish amounts and stints on others. In fact, wide variations* have been found in the vitamin C content in varieties of the same fruit.

Deficiencies. Many surveys have shown widespread vitamin C deficiencies in the population. Physicians may call these subclinical, but they are deficiencies nevertheless.

Because of these situations—natural variation and widespread deficiencies—diet experts believe that it is desirable and in the public interest to standardize the vitamin C content of processed fruit and vegetable juices by the addition of enough pure crystalline ascorbic acid to make them consistently dependable sources of this necessary food element. Some of these juices are: tomato, grape, orange, grapefruit, pineapple and apple.

Requirements. The U. S. Food & Drug Administration has set 30 milligrams as the adult minimum daily requirement of ascorbic acid. This daily intake is just about sufficient to prevent recognizable signs of vitamin C deficiencies although a subclinical or an unrecognized deficiency may exist. In view of this, the National Research Council has established 75 milligrams as the recommended daily male adult allowance and 70 mg. daily for female adults, which levels are supported by many controlled nutrition studies. However, the N. R. C. recommends 90 mg. daily for boys between 13 and 15, 100 mg. daily for boys between 16 and 20, and 150 mg. daily for lactating women.

This article is published in the interests of pharmaceutical manufacturers and food processors who make their good products better with essential, health-giving vitamin C. Reprints are freely available. Vitamin Division, Hoffmann-La Roche Inc., Nutley 10, New Jersey. In Canada: Hoffmann-La Roche Ltd., 286 St. Paul Street, West; Montreal, Quebec.

*The table shows minimum and maximum levels of ascorbic acid in commercially canned juices. All figures are in milligrams per 100 grams of juice. Data from U. S. Department of Agriculture.

	Min.	*Max.*
Apple juice	0.2	3.6
Grape juice	0.0	4.7
Grapefruit juice	10.0	49.0
Orange juice	9.7	70.0
Pineapple juice	5.4	18.0
Tomato Juice	2.5	32.0

control, and labor saving. However extensive education in their use and the installation of proper equipment will widely expand their acceptance and use. Frozen vegetables, shrimp, and the majority of frozen fruits for pie fillings are the most widespread in use.

Frozen Desserts. Frozen desserts offer exceptional opportunity for specialty items. They may be very simple or as decorative as those on a French cuisine. Their variety depends largely on the size and storage capacity of the restaurant or institution and the type of clientele served. Ices, mousses, sherbets, frozen pies, and frozen fruit desserts are some of the wide variety possible. They may be used to offer variety at low cost along with the meal, as part of the salad, or as dessert. Recipes for banana mousse, frozen fruit dessert, and a basic pie filling with numerous variations are only some of the interesting recipes given.

FORECAST FOR HOME ECONOMISTS

Vol. 70, June, 1954

* Eat your milk, too! J. Grant.—p. 22.

Cheese. That cheese is derived from milk is the central theme of this short article which points out that although cheeses are known by more than four thousand names, there are actually only a limited number of different types, most of which are made in the U. S. A cheese chart listing twenty types of cheese tabulates the distinguishing characteristics of each, ways to serve, and the geographic place where the cheese was first made. Three recipes using cheese are also given.

HOSPITAL MANAGEMENT

Vol. 77, June, 1954

* After-peeling discoloration of potatoes. K. Longree.—p. 76.

Preventing Discoloration in Potatoes. In some instances, discoloration in potatoes is said to be brought about by bruising in the peeler. The potato looks a light pink at first, then after cooking, turns a brownish grey. Laboratory tests showed that hand-peeling under water eliminates discoloration. Another type of discoloration, known as stem-end blackening, is not visible until the potatoes have been cooked. Other factors affecting the tendency to discolor are type of peeling equipment and variety of potato. So far no control measures have been found to prevent this bluish tinge which penetrates deep into the potato, though last-minute remedies, such as browning in fat, adding paprika, parsley sauces, or gravies are suggested. Tests in the laboratory along with results and specific methods of preventing discoloration brought about by bruising, are given. Five "dips," including three commercial brands were tested. None of the commercial brands gave satisfactory results; most effective was a 1 per cent solution of sodium bisulfite in which potatoes were dipped for 30 seconds. A cost study comparing commercially prepeeled potatoes and those using the sodium bisulfite solution indicated the "home-made" method to cost about a third as much. Step-by-step instructions for using the recommended solution are listed.

HOSPITALS

Vol. 28, June, 1954

* Good hospital food means 'good to eat.' C. E. Kusner.—p. 111.

Standards for Hospital Food. The challenge in dietary administration today is the production of *good* food. In a hospital, good food means many things. It means keeping up with the newer thinking and research so that therapeutic demands can be met. To the administrator, good food means not only food that is adequate and acceptable to the patient, but a dietary service that keeps within the budget. But most of all, good food means "food to eat." As an administrator, it is the dietitian's responsibility to work through and with people to achieve the production of "good to eat" food. She must first do the necessary planning and promotion to have a well-organized department. Then, she must motivate her employees through inspiration and enthusiasm to want to produce good food. To be successful in working through and with people, the dietitian needs to understand herself and to have certain qualities of character: an inquiring mind, maturity of judgment, emotional stability, poise, and the ability to think creatively.

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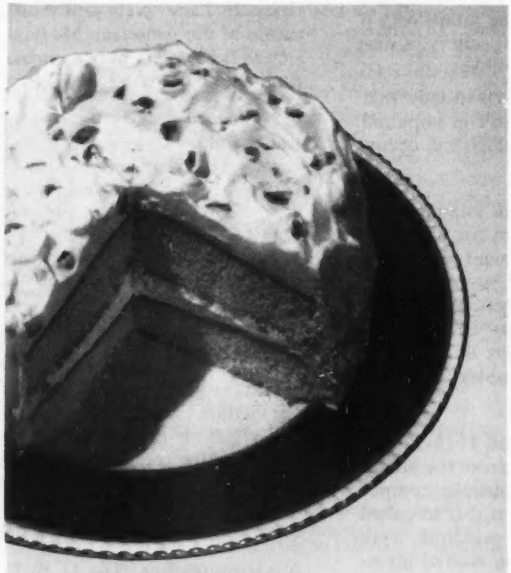

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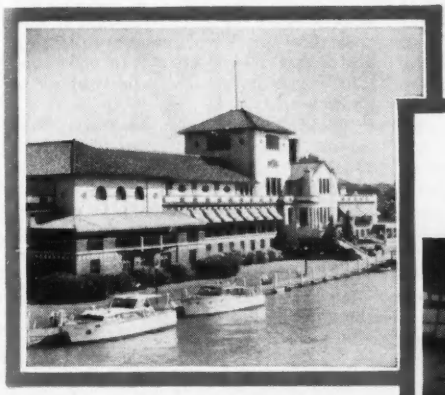

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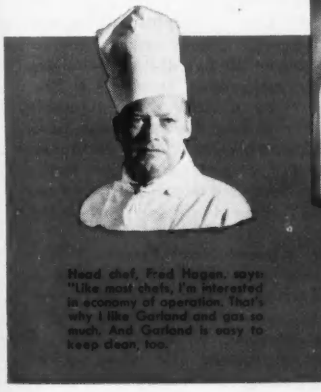
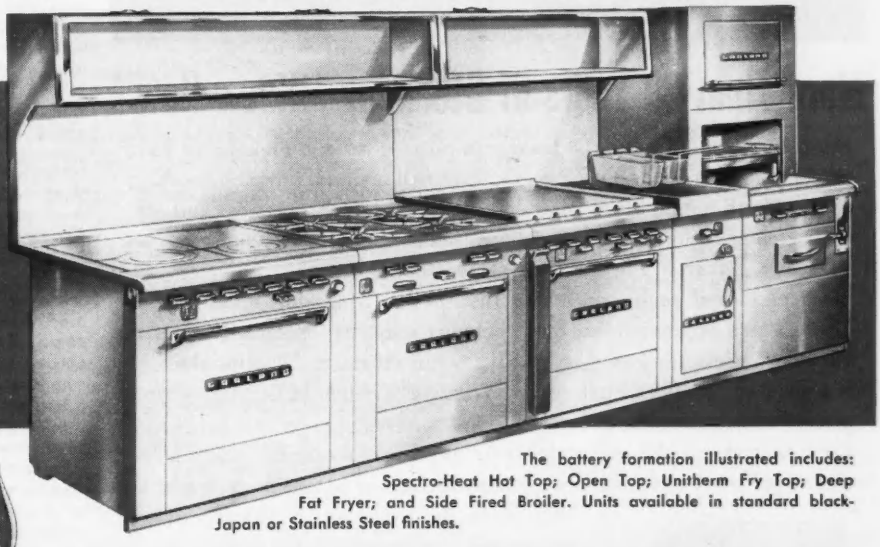


Head chef, Fred Hagen, says: "Like most chefs, I'm interested in economy of operation. That's why I like Garland and gas so much. And Garland is easy to keep clean, too.



The battery formation illustrated includes: Spectro-Heat Hot Top; Open Top; Unitherm Fry Top; Deep Fat Fryer; and Side Fired Broiler. Units available in standard black-Japan or Stainless Steel finishes.

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Planning for changes is part of the dietitian's job, just as ability to communicate to employees, co-workers, and patients is essential if the goal of good food is to be achieved.

HOTEL MANAGEMENT

Vol. 65, May, 1954

- Fancy ice cream desserts to make you famous.—p. 60.
- Your office desk—barrier or salesman? E. E. Forster.—p. 68.

Fancy Ice Cream Desserts Make You Famous. Too frequently ice cream on the menu is regarded as a standby or is chosen by the guest when nothing else appeals to him. Many widely known hotels and restaurants have put showmanship into ice cream desserts and many have become famous as a result. To the majority of diners, a beautiful parfait or bombe is a treat to the eye as well as the palate. Add the glamour of a flaming sauce or a cloud of spun sugar and people will come far for the crowning touch to a meal. Many of the desserts may be prepared during slack hours and can be returned to the freezer until just before serving. Pre-ready ice cream desserts are ideal for a banquet or special groups of any size. A "bombe a la russe" consists of an ice cream mold made of several flavors of ice cream, fruit, whipped cream, and creme de cocoa liqueur. A Houston hotel features a spectacular flaming baked Alaska as a birthday cake. The lights are dimmed, then the brandy is ignited, and the Alaska is carried blazing to the table. At another hotel, the "bombe Vesuvius" causes a sensation. The beautifully decorated ice cream mold is built around a small basin. Then, just before serving, water and dry ice are put in the basin. The resulting 'smoke' is a triumph of showmanship.

Making Business Visitors Welcome. Test whether your desk is a block or an asset; ask yourself these questions. When sitting in the visitors' place, do you feel comfortable and can you see straight across the wall behind. If the whole picture is inviting and makes you feel welcome, then you have a "salesman" desk. On the other hand, if the chair is hard and uncomfortable, if you cannot see across the desk because of the clutter of papers, telephone wires, and ash trays and if you feel like an intruder, then you have a "barrier" desk.

INSTITUTIONAL FEEDING AND HOUSING

Vol. 2, June, 1954

- The country's most exclusive in-plant feeding operation.—p. FH8.
- Feature cheese for greater profits.—p. FH10.

U. S. Senate Restaurant. Called the country's most exclusive in-plant feeding operation, the Senate Restaurant feeds six hundred people daily, including U. S. Senators, their guests and staffs, and newsmen. Although the restaurant is subsidized by the government, the food service company operating it has kept prices low by careful buying and record keeping. Eighty people are required to serve the five dining rooms and snack bar comprising the Senate Restaurant. From a large serving pantry next to the dining rooms on the main floor, orders are sent via an intercommunication system to the kitchen in the basement. Specially decorated cakes are said to be the most popular item on the menu.

Serve Cheese for Profits. With more than four hundred varieties of cheese on the market, the service of cheese in some form is becoming a common practice at every meal. A minimum of expense and labor can go into appealing, economical rarebits, sandwiches, souffles, and fondues. Knowledge of the flavors, qualities of various cheeses and suitability to various types of food preparation is essential for proper use. A chart giving the more common varieties of cheese, their origin, color, flavor, texture, and use is given.

INSTITUTIONS MAGAZINE

Vol. 54, June, 1954

- Standards for storage. R. R. Marsh.—p. 9.
- Sanitation taught as 'venture in human relations.' K. D. Lawson.—p. 28.
- Incentives for cooperation.—p. 42.
- Good food boosts staff morale. S. M. Hartt.—p. 47.
- Casserole production. A. M. Macfarlane.—p. 98.
- Casserole dishes.—p. 106.

What goes into good management? A. M. Macfarlane.—p. 130.

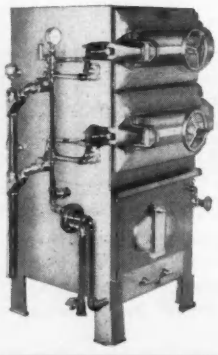
- Use rule of five to get employees off to good start. C. H. Broaded.—p. 138.

More Than 20 Years of Steaming "Know-How"

For more than 20 years, the makers of *Steam-Chef* and Steamcraft have produced steam cookers exclusively. Through manufacture and constant contact with actual users, they have produced such practical and efficient steamers that owners and operators continue to buy more *Steam-Chef* or Steamcraft Steamers for use in their kitchens.

Time and time again, since the Institutions Magazine Food Service Contest was originated, an overwhelming majority of Award Winners have been users of *Steam-Chef* or Steamcraft steamers. Illustrated above is a view of the 1954 First Award Winning Kitchen in St. Agnes Hospital, Fond-du-lac, Wisconsin.

Leaders in their field, with more than 20 years of steaming "know-how" and experience, the makers of *Steam-Chef* or Steamcraft are ready to help solve your kitchen problems. Write for complete descriptive literature.



Steam-Chef, heavy-duty steamer with 2 or 3 compartments. Steamcraft, for smaller kitchens, with 1 or 2 compartments. All models available for direct steam, gas or electrical operation.

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Meat...

and the Protein Requirement in Tuberculosis

Evaluation by blood analyses shows that protein needs of the tuberculous patient increase markedly with advancing extent and duration of the disease.[1,2]

Although the concentration of total serum proteins in tuberculosis may be elevated, controlled studies have shown that the elevation usually is due to an increase in the globulins.[3] In patients with advanced tuberculosis the albumin fraction of the total serum protein may be sharply lower, while the globulin fractions are distinctly higher in amounts than normal.[4]

This low serum albumin concentration has been interpreted to reflect "a low protein intake as well as a retarded or failing support with protein released from protein reserves."[2] Unless the low level of serum albumin is corrected by enhanced protein nutrition, it "eventually means a low hemoglobin level and a low total red cell count with cells that have a normal color index."[2]

To satisfy the increased protein needs, 120 grams of protein or more should be supplied in the daily diet.[2] Meat and other high protein foods of animal origin, appetizingly served, assist in getting patients with depressed appetite to eat the amount of food needed to derive the required protein.

Other important contributions of meat are its valuable amounts of B vitamins and of essential minerals, especially iron, phosphorus, and potassium.

1. Getz, H. R.; Westfall, I. S., and Henderson, H. J.: Nutrition in Tuberculosis as Evaluated by Blood Analysis, Am. Rev. Tuberc. *50*:96 (Aug.) 1944.
2. Getz, H. R.: Problems in Feeding the Tuberculous Patient, J. Am. Dietet. A. *30*:17 (Jan.) 1954.
3. Eichelberger, L., and McCluskey, K. L.: Chemical Studies in Tuberculosis: Plasma Proteins, Cholesterol and Corpuscle Volume, Arch. Int. Med. *40*:831 (Dec.) 1927.
4. Seibert, F. B.; Seibert, M. V.; Atno, A. J., and Campbell, H. W.: Variation in Protein and Polysaccharide Content of Sera in Chronic Diseases, Tuberculosis, Sarcoidosis, and Carcinoma, J. Clin. Invest. *26*:90 (Jan.) 1947.

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Standards for Storage. Keeping storage space for all types of food rodent free and mold free, is stressed. The important sanitary steps to take in storing various types of food, such as dry foods, i.e., bags containing sugar and flour; canned goods shipped in cardboard cartons; vegetables; meats; and frozen foods, are discussed.

Sanitation—A "Venture in Human Relations." Living standards are only changed as a result of education, and education is human relations, good or bad. Problems in educating people to the need for better sanitation are enumerated as well as the types of educational techniques for a personnel training program. The sanitation program of Michigan State College is outlined.

Incentives for Cooperation. Bonuses for employee suggestions have not only increased operational efficiency and cut time and equipment costs, but have worked miracles in making employees feel they are important parts of the organization. The operation of the Veterans Administration suggestion system on a nation-wide basis is outlined. In 1952, more than $1 million were paid to Veterans Administration employees for accepted suggestions; savings of $36 million resulted. Pictures are shown of the employees at McClosky VA Hospital, Temple, Texas, putting some suggestions to practical use.

Food Boosts Staff Morale. Either dining room, cafeteria, or coffee-shop service may be provided hospital employees. Dining room service is usually given the professional or administrative staff. This type of service is considered advantageous for employees who are constantly under pressure by providing privacy and leisurely use of meal time, although it is more expensive in space and labor. The trend is toward cafeteria service for hospital employees, nonresident staff, patients' families, and visitors. Establishment of cafeteria service has usually resulted in both greater staff acceptance and operating efficiency. The advantages include: wider choice of food; more take-home pay for employees; employees may spend their earnings as they desire; group discrimination is eliminated. The coffee shop or snack bar may be managed by dietitians or operated by a hospital auxiliary separate from the dietary department. In either case, the same high standards of cleanliness should prevail as in the hospital itself.

Casserole Production. Time and motion may be saved if production-line procedures are followed in assembling several casseroles. There should be nothing mysterious about the ingredients of a casserole—all should be of highest quality, with flavorful sauces to give the dish zest. The majority of casserole dishes rank high in nutritive value, having as a base foods high in protein, such as cheese, meat, poultry, fish, and/or eggs. When eggs and/or cheese are part of the casserole components, low cooling temperatures are indicated. Rice lends itself well to casseroles. It may be purchased in regular, processed, or ready cooked form. Long-grain rice is generally preferred for casseroles because of its white and fluffy appearance, unless a creaminess is desired, which can be produced by the short-grain variety. Unlimited variety may be achieved by garnishing, seasoning, and by the use of flavor intensifiers.

Orienting New Employees. Though the employee must do the actual adjusting, the supervisor has an important role in this adjustment. The supervisor, understanding the tensions to which every new employee is subjected, should greet him cordially, engage him in a brief, but friendly conversation to relieve his tension, show him around, introduce him to his co-workers, see that he is put at his ease, and answer all questions which might arise. Although none of these points seem difficult, they must all be followed through in detail to insure a good beginning for most new employees.

Dishes for Casseroles. Increased popularity of the casserole has been due in large part to the many attractive colors, shapes, and sizes which manufacturers now turn out, and the fact that they can go from the oven directly to the table, blending well with the table setting. Most casserole dishes, although break- and crack-resistant to oven heat, should be placed on a table mat immediately after removal from the oven since sudden change of temperature in contacting a cool surface will often crack them. Manufacturers have further promoted casserole service by providing tested quality recipes and illustrating the type of dish appropriate

HOTEL RESERVATIONS
Philadelphia

▶37th Annual Meeting—October 26–29

Please make your hotel reservations for the 37th Annual Meeting of The American Dietetic Association through: THE CONVENTION & VISITORS BUREAU, 17th & Sansom Sts., Philadelphia 3, Pennsylvania. The Bureau will accept either the form given below, or a letter containing equally specific information. You will receive confirmation of your reservation.

The Philadelphia Commercial Museum, where daytime meetings and exhibits will be held, is approximately two miles from the hotel area. The hotels listed below are located within a few blocks of The Benjamin Franklin Hotel, the headquarters hotel.

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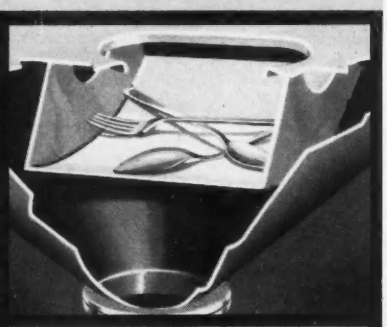

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for the specific menu item. Seventeen such recipes are given.

THE MODERN HOSPITAL

Vol. 82, June, 1954

* Know your raw food costs. F. C. Morgan.—p. 112.
* Diabetic diets are no cause for alarm. J. Hartman.—p. 118.

Raw Food Costs. How well a dietitian operates within her budget depends, to a large extent, on a clearly defined classification of raw food cost accounts, preliminary information on purchasing, receiving, issuance of stock, and inventory. The dietary department at the Genesee Hospital, Rochester, New York, solved many difficulties encountered in reconciling their over-all totals with the accounting department by installing a new cash register, giving detailed breakdowns on cafeteria foods served and revising daily reports on cafeteria meals served. A new semimonthly report of purchases and stock requisitions gives the chief dietitian a closer check on budget commitments. The dietary department coded all vendors' invoices and requisitions by the new account classification. Invoices and requisitions were sent to the accounting department for checking of extensions and records. This relieved the dietary department from detail work, with a minimum of additional work for the accounting office. A chart is given with a breakdown of foods and costs, and an analysis of various expenses the chief dietitian must take into account.

Diabetic Diets. A four-step plan for introducing the use of the Exchange Lists for diabetic patients into a hospital routine is presented. The plan has been tested over the four years intervening since the introduction of this plan worked out by joint committees of The American Dietetic Association, the American Diabetes Association, and the Diabetes Branch, U. S. Public Health Service.

PERSONNEL JOURNAL

Vol. 33, June, 1954

* Rotational role playing used to develop executives. B. J. Speroff.—p. 49.
* Some notes on talking. D. C. Spooner, Jr.—p. 59.
* Three ways to humanize your handling of workers. R. A. Enion.—p. 62.

Executive Training Methods. To bring about a better understanding of the activities and problems within an organization, key executives participate in a job rotation plan. Although each executive actually stays on his own job, he is given a real or made-up problem, concerning another department to solve. The results of his working out of the problem are presented, in play form, before the appropriate department for criticism and suggestions.

Notes on Talking. Since most business is carried on by word of mouth, the successful businessman is one who usually has at his command the art of business conversation, knowing what to say and how to say it. The important do's and don'ts to aid in the success of this art, are presented.

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The card accompanying the African violets said, "Hope you like this Saintpaulia ionantha." The signature told me the rest. It was from the patient who used to be in 706, Mrs. Olgivie. The one that loved gardening so much.

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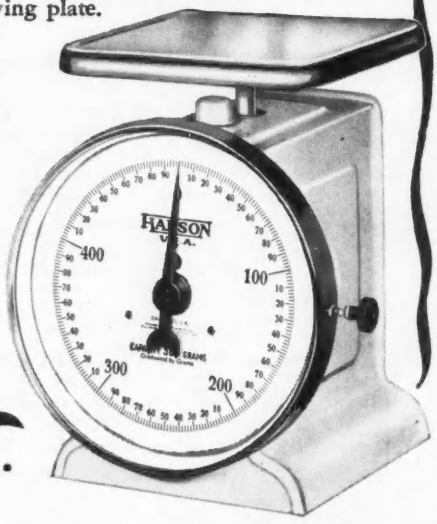

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Model DA—Capacity: 2400 patties per hour

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Human Relations in Industry. Looking for the cause of a worker's behavior and gaining an understanding of his major working needs is called the *why* approach (and the right approach) in handling personnel problems. Just listening to a worker who has a problem and discussing it with him often clears up seemingly impossible situations. Worker participation in a business is suggested, such as employee-planned company picnics, safety and housekeeping committees and suggestion and grievance committees.

PRACTICAL HOME ECONOMICS

Vol. 22, June, 1954

* Vitamin C in the school lunch. M. Cronan.—p. 31.

Ascorbic Acid in the School Lunch. Eight years' use of the Type A pattern for the school lunch has shown that, particularly for older children, the meals need to be supplemented or strengthened in vitamin A and ascorbic acid content. This article deals with the ascorbic acid problem, covering storage of foods, purchasing, and use. It is pointed out that since both heat and age are enemies of ascorbic acid, proper storage with special attention to proper temperature will conserve the ascorbic acid content of fruits and vegetables. In purchasing, it must be remembered that about 90 per cent of the ascorbic acid in the diet comes from fruits and vegetables. Thus the school lunch manager should try to select fruits and vegetables high in ascorbic acid content; six buying "hints" are listed. The author also discusses the advantage in using ascorbic-acid-rich foods in menus; most of these foods are colorful and have tempting flavors which will add to the acceptance of the total menu.

RESTAURANT MANAGEMENT

Vol. 74, June, 1954

* Pricing your menus persuasively and profitably. H. H. Pope.—p. 42.
* Making salads more appealing. A. Easton.—p. 47.
* Analyzing your food cost percentages. 6. Purchasing, receiving and storing raw food. L. F. Sins.—p. 50.

Remodeling a pantry for quicker, more efficient service. A. W. Dana.—p. 52.

Pricing Menus. The author, a successful restauranteur, discusses the problems of pricing menus so that a profit is made and sales encouraged. Since the war, the cost of labor has risen in proportion to the cost of food, so that the old rule of thumb of pricing an item at two and a half times the food cost is no longer valid. Today some restaurants determine the cost in dollars and cents of preparing and serving a meal, and then adding that to the food cost. Another method is to substitute high-cost entrees for low-priced entrees. By so doing, dollar sales rise more than the difference in the menu prices, with greater dollar profits, although the percentage figures may suffer. Cost accounting methods today make it possible to allocate indirect overhead costs to various types of foods, i.e. salads, entrees, beverages, and so on. Fortunately, high-priced items, such as steaks,

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Vitamins and Minerals	
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Ascorbic acid	300 mg.
Thiamine hydrochloride	10 mg.
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Niacinamide	100 mg.
Calcium pantothenate	40 mg.
Pyridoxine hydrochloride	5 mg.
Choline bitartrate	500 mg.
Folic acid	2.5 mg.
Vitamin B_{12} (crystalline)	4 mcg.
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Calcium	6.3 Gm.
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*Therapeutic Nutrition, Publication No. 234, National Research Council.

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NEW HOPE in the battle against CANCER

THE FIGHT against man's cruelest enemy is far from won. If present rates continue, 23 million living Americans will die of cancer—230,000 *this year*. And thousands of these will die needlessly—through cancer that could have been cured if treated in time.

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MUCH MORE, of course, remains to be done. So please make *this* year's gift a really *generous* one!

Cancer
MAN'S CRUELEST ENEMY
Strike back—Give
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chops, and roasts, can usually be sold at a lower mark-up than low-priced hashes, stews, and ground meat dishes, since less labor is required to prepare them. Another basic rule of merchandising is to offer menu items in combination. Sales will be greater even though the total of the individual items remains the same. Operators are warned against making petty charges, such as 2 cents for crackers or cream. It is better to increase the over-all price and give the accompaniments "free."

Appetizing Salads. Salads on menus offer potentialities of large sales, particularly during the summer, and they may be planned to make extremely attractive service. The three "C's"—clean, cool, and crisp—insure top quality salads. Salads also offer persons on special diets, low-calorie particularly, an opportunity to eat out, while following the restrictions. High-protein salad plates will appeal to men. Tips are given for preparing salads, with the warning that fruits or vegetables, placed naked and alone on lettuce, do not make a salad.

Purchasing, Receiving, and Storing Raw Food. In this sixth article in a series on cost control, the author discusses the principles of good purchasing practice, listing eight "steps toward sounder purchasing," and setting forth the pros and cons of competitive purchasing. A box provides examples of typical purchasing specifications for twenty-nine meat, poultry, and seafood items. Four examples of poor receiving procedures are given, followed by specific suggestions on checking the condition of vegetables and fresh meats on delivery. Final topic of discussion covers the storage of perishables and staples, including the problem of proper temperature for various types of foods.

WHAT'S NEW IN HOME ECONOMICS

Vol. 18, June, 1954

* Let's teach the importance of milk to everyone. H. DeGraff.—p. 32.

Values of Milk. The author reviews the virtues of milk consumption for all human beings from babies to octogenarians. He details its value as a source of high-quality, cheap protein, and of calcium. Its advantages in a weight-reducing regimen are enumerated, the most prominent one being that it provides "armored" calories, that is, calories which furnish valuable nutrients (calcium, protein, riboflavin) in contrast to naked calories which supply only energy. By insuring an intake of armored calories, the proper intake of essential nutrients is insured while calories are reduced. For the "after forty" group, milk assumes special importance. With reduced activity and some general physiologic slowdown, energy needs fall while those for other nutrients remain the same. This means cutting down on foods that are mere calorie sources and increasing consumption of foods high in protein, vitamins, and minerals. Milk is one food which fills this bill.

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News Notes

Photo Contest Winners. "More, Please," the first award winning entry, shown above, was submitted by A.D.A. member, Juanita Kenefick, and was taken at Children's Hospital Society, Los Angeles.

Second Prize was won by Frank R. Schultheis, Jr., University of Kansas Medical Center, Kansas City, Kansas, for his photograph of "Growth Study Team Mates—Dietitian, Nurse, and Child." Two other prints of Mr. Schultheis were chosen for honorable mention awards.

For her entry, "Dietitian Presents Birthday Cake to 100-Year-Old Hospital Patient," Leila Colwell, Director of Dietetics, Evanston (Illinois) Hospital Association, received third prize.

Dietitians associated with the Office of the Surgeon General, Washington, D. C. submitted many fine entries. Photographs receiving honorable mention were those of Lt. Margaret Shipman, Lt. Mary McGrew, and Lt. Jeanne McNally. Four photographs by Jean Roberts, School of Nursing, University of Tennessee, Memphis, also received honorable mention awards. Other honorable mention prizes went to the following: Louise Hatch, Dietary Department, Massachusetts General Hospital, Boston; Mildred Bonnell, University of Washington Dining Hall, Seattle; Ruth Freed, Dietetic Intern, Aetna Life Insurance Company, Hartford, Connecticut; Pearl T. Wilson, Kennedy VA Hospital, Memphis, Tennessee; the Tuskegee Dietetic Club, Tuskegee, Alabama; and the dietetic interns at John A. Andrew Memorial Hospital, Tuskegee Institute.

Judges of this year's entries found their task more difficult than ever before. A greater number of pictures which met the basic requirements of authenticity, accuracy of detail, and photographic excellence, were submitted. Response to the contest was good, with entries received from all sections of the United States as well as from overseas.

Features of the Annual Meeting. Vocal globe-trotting promises to be one of the outstanding attractions of the Philadelphia meeting. Among the travel guides, during the session devoted to "Nutrition in the World," will be August R. Lindt, Ph.D., native of Switzerland, Chairman of the Executive Board of the United Nations Children's Fund, who will discuss "Child Nutrition of Many Lands."

During this session, Elda Robb, Ph.D., Director of the School of Home Economics, Simmons College, Boston, is to describe her experience in establishing, last year, the College of Nutrition and Home Economics in Jerusalem.

Sharing in the global discussions, Mrs. Andromache Sismanidis, nutrition representative of the F.A.O., will talk on her extensive travels in other countries to discuss their food habits. Marguerite Queneau, who is studying in Paris on a Fulbright scholarship, will return in time to appear on this session. Miss Queneau is associated with the Nutrition Bureau, New York State Department of Health in Albany.

Considerable emphasis is slated to be given the field of food administration at this year's meeting. At least eight sessions are to be devoted to topics of interest in this field. Among the many acknowledged authorities who will participate in them are: Samuel A. Goldblith, Ph.D., assistant professor of food technology at Massachusetts Institute of Technology; O. V. Wells, LL.D., administrator, Agricultural Marketing Service, U. S. Department of Agriculture, Washington, D. C.; and Margaret L. Mitchell, vice-president in charge of food production at the Stouffer Corporation, Cleveland. Walter Snyder, executive director of the National Sanitation Foundation, School of Public Health, University of Michigan, will discuss standardization, approval, and testing of equipment in food sanitation.

Those of the A.D.A. membership who knew of Mrs. Mary Bloetje's studies in food administration in the Scandinavian countries, two years ago, will wish to hear her talk concerning the relating of research in management to the food service field.

"Short Cuts to Financial Control for Small Hospitals," will be the subject of Dr. Neva Radel, professor of home administration at Pratt Institute and director of the New York State Restaurant Association.

Names long familiar to A.D.A. audiences again will be announced from the rostrums. They are: Fredrick J. Stare, M.D., Ph.D., of the Harvard Schools of Medicine and Public Health; Charles G. King, Ph.D., Scientific Director of the Nutrition Foundation, Inc., New York; and Herbert Pollack, M.D., Ph.D., of the Mt. Sinai Hospital, New York.

Leonard A. Maynard, Ph.D., professor of bio-chemistry and nutrition at Cornell University, will discuss nutritive additives during the period entitled, "Nutrition Fronts." Scheduled to appear with him is Olaf Michelsen, Ph.D., assistant chief of bio-chemistry and nutrition at the National Institutes of Health in Bethesda, Maryland. Dr. Michelsen's topic is "Nutrition and Alcoholism."

Those who are concerned with infant feeding will be interested in hearing Paul Gyorgy, M.D., chief of the department of pediatrics at the hospital of the University of Pennsylvania, Philadelphia, and Harold E. Harrison, M.D., chief pediatrician at Baltimore City Hospital, Baltimore.

Borden Award. Dr. Jane Leichsenring, Professor of Nutrition at the College of Home Economics, University of Minnesota, was named as winner of the Borden Award for Fundamental Research in the field of Nutrition and Experimental Foods for 1954. The announcement was made in San Francisco at a general session of the 45th annual meeting of the American Home Economics Association.

Dr. Leichsenring was selected for the 1954 award on the basis of her original and fundamental research, as well as her participation in co-operative projects during the period from 1948–1953. She has made contributions to human nutrition knowledge through hematological studies and mineral metabolism studies. She has also made food analysis studies and conducted dietary investigations. She is joint author of food composition tables for a short method of dietary analysis which have been reported in the J.A.D.A. and are widely used by dietitians in the evaluation of diets.

Dr. Leichsenring has been on the staff at the University of Minnesota since 1924. During this period she earned both her M.S. and Ph.D. degrees. Dr. Leichsenring is a member of A.D.A. and a contributor to numerous committee activities.

Interns Graduate. On June 25, graduation exercises for nine dietetic interns were held at the Nurses' Residence of the Bronx VA Hospital. Nelda Ross, Director of Nutrition, Presbyterian Hospital, New York City, was the principal speaker. The graduates included the following: Phyllis Bean, University of Maine; Patricia Cuddy, University of Connecticut; Ann Maxton, Virginia

Here's a way to make patients on diets ...sing for their supper

No patient likes being on a diet... but it certainly helps — more than anything else you can recommend — to suggest the use of Ac'cent in making food more naturally flavorful and enjoyable. Ac'cent offers a superb way of adding taste to diet food simply by bringing out the *natural* flavors of foods. So amazing is this flavor-enhancing protein derivative (99+% pure monosodium glutamate) that it even retains the true delicious flavors in foods that must be held for a long time before serving. Flavorful food means food that will be eaten... recommend Ac'cent not only in your special diets where indicated but to "finicky" eaters and all others who never get enough nutritious foods. Ac'cent is derived from natural food sources. It is not a synthetic and it is nontoxic. Its sodium content is only 12.3 per cent. Ac'cent is not a salt substitute, but it will make foods more flavorful. Best of all, Ac'cent is easily obtainable by your patient at neighborhood food stores.

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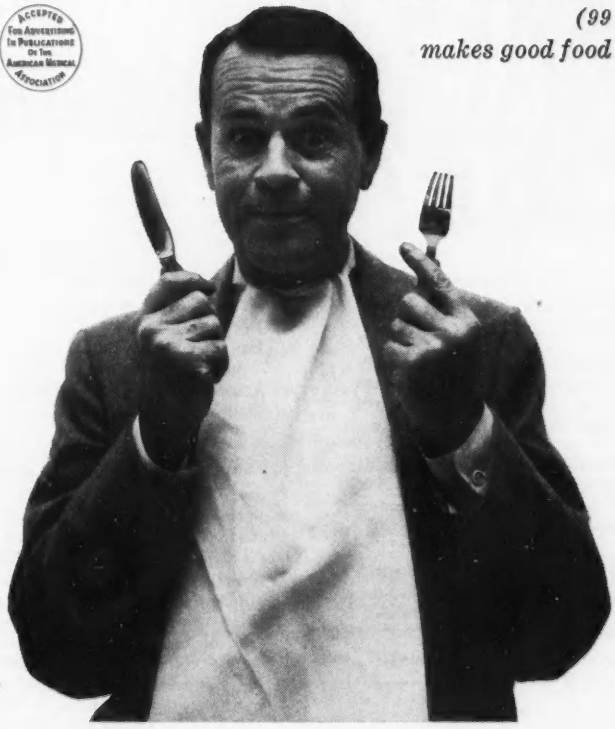

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Fulbright Awards, 1955–56. The closing date for making application for lecturing awards in Home Economics will be October 15, 1954. Openings in Denmark, France, and Pakistan have been listed.

In Denmark, at Arhus University and other Danish institutions, subjects of interest are: Home economics methods, principles of home economics education, family relationships, child development, etc. Students will range from those having the equivalent of a high school education to those with two years' work at the university level. The grantee should be prepared to confer with Danish specialists in the field and to lecture at other schools than the host institution. The year is from September to June. Lectures may be given in English.

In France at the Institute on Home Economics, Paris, there is a lecture award in Home Economics Education. This field has been relatively underdeveloped in the curriculum of French universities until recently. The visiting professor should be able to lecture in French. Three hours of lectures weekly plus direction of laboratory work and seminars (maximum: 8 hours per week) are proposed. The year extends from November through June.

In Pakistan at the Mymemsingh Training College, affiliated with the University of Dacca, is an opening in home economics education for work with rural populations. This is a Teacher Training College. Courses are to be given in English. The academic year extends from July through March.

New A.H E.A. Officers Announced. When the 45th annual meeting of the American Home Economics Association was held in San Francisco, July 6–9, the following were presented as the officers:

President (1954–56)—Catherine T. Dennis, State Supervisor of Home Economics Education, North Carolina Department of Public Instruction, Raleigh.

Vice-Presidents: (1952–55)—Frances Clinton, State Home Economics Extension Leader, Oregon State College, Corvallis. (1953–56)—Edna Hill, Chairman of the Home Economics Department, University of Kansas, Lawrence. (1954–57)—Edna Kraft James, homemaker, (formerly State Supervisor of Home Economics for the state of Iowa), Des Moines.

Recording Secretary (1953–55)—Gertrude Holloway Johnson, homemaker (formerly Nutrition Specialist, University of Delaware Extension Service), Newark, Delaware.

Treasurer (1954–56)—Mary Rokahr, Head of the Department of General Home Economics and Associate Professor of Home Management, School of Home Economics, University of Connecticut, Storrs.

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Maggi's Seasoning and Maggi's Granulated Bouillon Cubes are high in protein, low in calories. Extremely easy to digest . . . even more digestible than simple foods such as toast. (Not recommended for salt-free diets.)

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Plentiful Foods MONTHLY LIST

Leading the list of plentiful foods for August, the U.S.D.A. has named turkeys and Bartlett pears as "features." Other plentiful foods for the month will be:

Fruits and Vegetables

Fresh and processed lemons and limes
Locally-grown vegetables

Protein foods and fats

Beef
Eggs, medium and small
Fresh fish
Milk and other dairy products
Peanuts and peanut butter
Vegetable fats and oils

Weight Control Program. A program report has been published of a community weight control project by the Nashville-Davidson County Nutrition Council in Tennessee. The planning, the objectives, the work of the publicity committee, the participating agencies, the orientation of leaders, and a discussion of techniques and outlines for the weight control classes are given.

Four members of A.D.A. participated in this program: Helen L. Harper, Veterans Administration Regional Office; Moiselle Peay, Mid-State Baptist Hospital; Ann Fogelman, Vanderbilt Hospital; and Evelyn Mason, Mid-State Baptist Hospital.

World Food Production. Agricul-

for handsome design...

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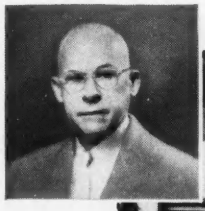
Wheeler's uses Libbey Crested Heat-Treated Glasses



Iced Tea, No. 606
12 oz.

Water, No. 610
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One look through the big picture windows indicates it. Closer inspection inside, proves it: Wheeler's, Indianapolis, Indiana, is an outstanding food operation. Popular owner William O. Wheeler knows the value of top-grade food, service and equipment.

When it came to glassware Mr. Wheeler demanded, and got the best: Crested Heat-Treated tumblers in Libbey's popular Governor Clinton line. Mr. Wheeler liked the unbeatable Libbey combination of handsome design, easy-to-hold shape, long wearing durability. And, not to be overlooked is the money-saving combination of Heat-Treating and the Libbey "Safedge" guarantee.

A Libbey Heat-Treated glass averages up to 200 servings at a cost per serving of only a fraction of a mill. Every Libbey glass is further guaranteed: "A new glass if the rim of a Libbey 'Safedge' glass ever chips!"

You can bring the same good taste and operating economies to your own beverage service. And for a slight additional cost, you can include the personal touch that your own crest, monogram, or trade mark brings.

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tural developments indicate a hopeful outlook for improved nutrition, according to a recent report by the Food and Agriculture Organization prepared for the UN Economic and Social Council, which met in Geneva beginning June 29.

In 1951, the FAO Conference recommended that governments increase food production by from 1 to 2 per cent over the annual rate of population growth. The report states that in large parts of the world, this has been achieved. In fact, between 1948 and 1952, food production in Europe and the Near East outstripped population growth by over 2 per cent, and in Africa and the Far East by over 1 per cent.

Today, a new problem for FAO is growing accumulation of surpluses of certain foods in some countries, whereas in large parts of the world, supplies are still insufficient to provide adequate levels of nutrition. FAO's emphasis has, therefore, shifted to the need for expanding production of commodities most needed in particular countries. Despite the problem of surpluses, continued emphasis will be given to technical activities. Many of FAO's technical assistance activities are aimed at raising yields per acre, per animal, and per farmer, and thus lowering production costs and providing the possibility of lower retail prices and greater distribution without reducing farm income.

Ice Cream Consumption. Last year people in the United States bought more than 600 million gal. of ice cream—or an average of about 15 pt. a person, according to the U.S.D.A. This figure represents 7 per cent of the total 1953 milk supply.

This year the industry is celebrating the fiftieth anniversary of the ice cream cone. Unlike such dairy products as cheese and butter, which were made first in the home, ice cream was developed by caterers, confectioners, and bakers to sell at retail.

Picnic Sense. Hints on good picnic menu planning have been listed by the American Institute of Baking. Perishable foods, particularly moist protein foods, travel safely only when refrigerated. Otherwise, they should go to outings only if they are eaten within two to three hours after preparation or removal from the kitchen refrigerator. Poor picnic risks are cream filled dishes, meat, fish, chicken and egg salads, and leftover foods. Addition of vinegar or lemon juice in appreciable amounts help stave off bacterial action.

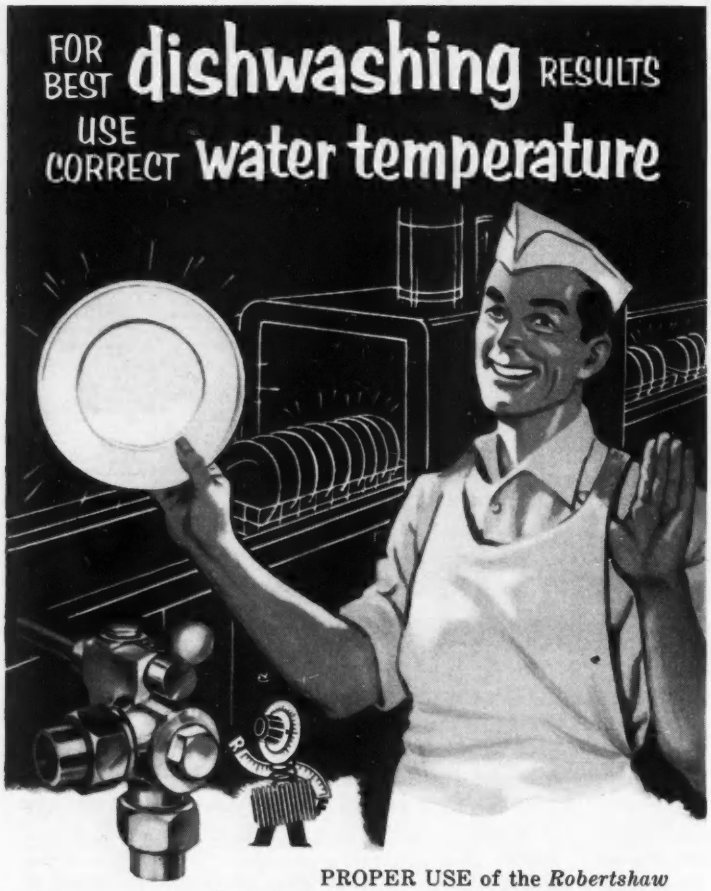
Ideal picnic foods are breads, cakes, cookies, and fruit pies. Among fruits, oranges, bananas, and apples are the best travelers. Safest sandwich fillings are peanut butter, most cheese, pickled or smoked meats or Thuringer type sausages. Jellies and jams add a tart note but no risks.

Proceedings of the Fifth Mental Hospital Institute. *Progress and Problems in Mental Hospitals* is a recently published report from the October, 1953 Institute held in Little Rock, Arkansas, under the auspices of the American Psychiatric Association.

Topics which were covered include methods for strengthening hospital food services through improved administrative practices, follow-up studies of patients after formal discharge, and the effectiveness of therapies and standards for psychiatric units in general hospital outpatient psychiatric clinics and private psychiatric hospitals. Mrs. Anna M. Dunn, Chief Dietitian, Lincoln State Hospital, Nebraska, served as leader for a discussion of recent developments in dietetics and kitchen equipment.

Copies of this publication are available from the American Psychiatric Association, 1785 Massachusetts Ave. N.W., Washington 6, D. C., at a cost of $2.50.

Manual of Buying Fish. The Fish and Wildlife Service of the U.S. Department of the Interior has published the *Fresh and Frozen Fish Buying Manual*, Circular 20. It is a recent revision of *Fresh and Frozen Fishery Products Reference Manual*, prepared by A. W. Anderson, Chief, Branch of Commercial Fisheries, as a supplement to Fishery Market News in August, 1941. This manual is intended to help food buyers and dietitians select the types of fish and shellfish likely to be available in their localities, within the limitations of their budgets and their menus. Contents include a description of the general market forms and containers in which fish and shellfish can be bought; purchasing criteria;



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- 10% greater yield per pound-equivalent pack!
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- No more coffee grounds—makes cleaning a cinch!
- No more urn bags, upper bowls, rings or filters!
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handling and storage; and what, where, and when to buy. The market classifications and specifications are given for the Boston, New York, Gulf States, Seattle, and Chicago wholesale markets.

Meetings. The American College of Hospital Administrators will hold its Twentieth Annual Meeting in Chicago, September 11–13. The *American Hospital Association* will meet in Chicago, September 13 through 16.

New Regulation for Low-Sodium Foods. After September 29, 1954, the labels of "salt free" or "low-sodium" food products for dietary use will be required to declare their sodium content in milligrams of sodium per 100 gm. of the food, and in an average serving of the food. The "average serving" is required to be expressed in such common terms as the number of slices, cookies, wafers, etc., or in terms of cupfuls, tablespoonfuls, teaspoonfuls, etc. This new ruling was made as an amendment of the dietary foods labeling regulations under the Federal Food, Drug, and Cosmetic Act by the Food and Drug Administration of the U.S. Department of Health, Education, and Welfare.

Many products were found on the market labeled "salt free" or "no added salt" but which nevertheless contained substantial amounts of sodium, naturally present as in some vegetables, or added in the form of baking powders or other ingredients. The regulations are in line with recommendations made by the American Heart Association and the Council on Foods and Nutrition of the American Medical Association.

Armed Services Increase Milk Consumption. A request to increase the consumption of milk by the Armed Services was made in June by Secretary of Agriculture, Ezra Taft Benson. Replying to this request, Robert B. Anderson, Deputy Secretary of Defense, has reported that spot checks indicate that many installations within the Department of Defense are currently exceeding the required one-half pint of milk per man per day. Both the Master Menu, for the Army and Air Force, and the Navy ration recommend that the allowance of fluid milk for each man be increased. To insure that maximum advantage is taken of the option, command letters have been dispatched to military installations urging increased consumption of milk.

International Vitamin Commission. To provide standardization in the vitamin assay of foods in various countries and thus to facilitate international trade, a Vitamin Commission has been organized under the auspices of the Food Division, International Union of Pure and Applied Chemistry. The Commission will explore vitamin procedures specifically adapted to food products entering into international commerce. Medicinal vitamin preparations, such as those presently included in the national and international pharmacopoeias, will not be included, such as dried yeasts, wheat germ oil, marine liver oils, leaf meals, rose hips, and certain concentrates of vitamins A, D, E, B_{12}, and carotene. The Commission will try to use the standardized methods of the numerous organizations within several countries and to integrate and adapt these methods for use at the international level. Professor E. Brunius, National Public Health Institute, Stockholm, Sweden, will serve as chairman.

Labeling Wintergreen. To minimize accidental poisonings by oil of wintergreen preparations, the Department of Health, Education, and Welfare has decreed that drugs containing more than 5 per cent of this ingredient must be so labeled. Charles W. Crawford, Commissioner, Food and Drug Administration, has stated that there are approximately fifteen deaths a year, mostly of young children, from accidental poisoning caused by oil of wintergreen preparations. This oil is commonly regarded by the public as harmless, but as little as a teaspoonful taken internally can cause death. Young children are particularly apt to be attracted by the odor.

Biology Journal Has New Publisher. The first issue of Human Biology to be published by the Wayne University Press appeared in June. The journal was founded by Raymond Pearl in 1929 and formerly published by The Johns Hopkins Press. It is edited by Dr. Gabriel Lasker, Assistant Professor of Anatomy, Wayne University College of

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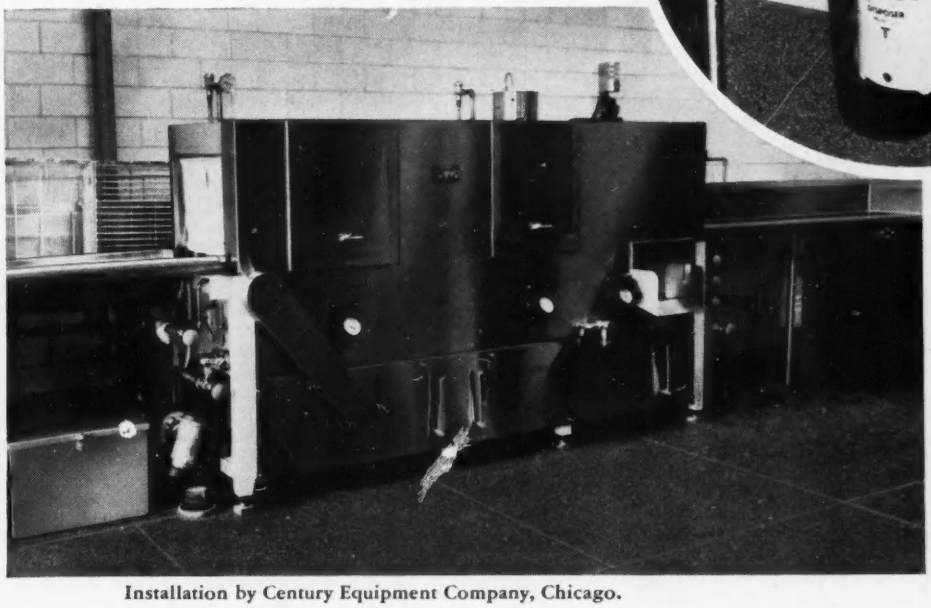

Installation by Century Equipment Company, Chicago.

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. . . easily installed . . . food waste is shredded and flushed away.

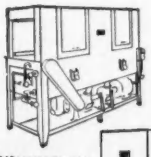
◀ COMBINATION DISHWASHER WITH CONVEYOR PRE-WASH

. . . saves time, provides maximum efficiency.

DISPOSER

Again—Toledos get the call for modern labor-saving dishwashing and food waste disposal—to *reduce kitchen costs!* This new Toledo Dishwasher combines in a single, dual-speed automatic machine a new, efficient conveyor Pre-Wash along with performance-proved Toledo wash and rinse operations. Conveyor carries dishes through pre-wash, wash and rinse.

Fast, easy, sanitary disposal of food waste is obtained with the new Toledo Disposer which has Reverso-CLEAN Action . . . self-cleaning, as shredder reverses automatically on each use, or under extra load. Check your needs . . . control costs with Toledo's complete selection of Dishwashers and Food Machines for all restaurant and institutional requirements. Send for bulletin 100-J.



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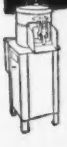
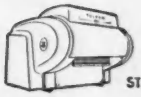


PEELERS

SAWS

SLICER

CHOPPERS



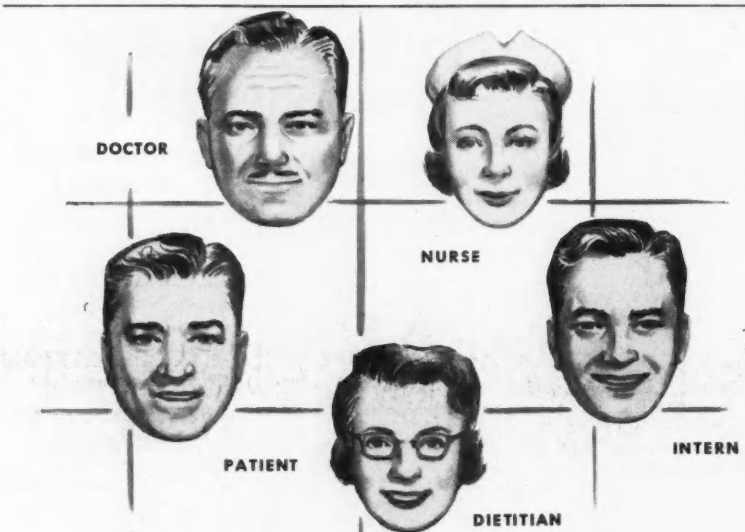
STEAK MACHINES

Medicine. The aim of the journal is to contribute to the comprehensive study of man and his heredity, growth, and aging; his response to physical and social environment, including nutrition and disease. The September issue will contain a collection of papers on nonhuman primates and human evolution which were presented at the annual meeting of the American Association for the Advancement of Science.

National Sanitation Foundation. The report of the National Sanitation Foundation for 1953 included the following major activities: (1) The development of joint NSF-industry-health agency Sanitation Standards for equipment which, in its use, has an affect on the health of the public; (2) the implementation of the Standards through the availability of enlarged facilities of a Testing Laboratory for examining such equipment and awarding a 'seal of approval'; (3) continued research in the sanitization of eating utensils and in the use of plastic pipe in potable cold-water systems; (4) formation of a voluntary organization for the nationwide sanitation of food and beverages, sponsored jointly by representatives of the industries concerned, the public-health profession and the Foundation; and (5) development of the program of education and public relations.

During 1953, the Foundation's Department of Public Relations and Development took preliminary steps toward implementing the proposed education and public relations program. A list of some 4,600 names was selected to constitute a mailing list. Groups selected from this list were sent news releases and published materials. Innumerable requests from all over the U.S. and the world for educational material were filled. A quarter-annual "NSF News Letter" was inaugurated and published. Reprints of articles and speeches were distributed in quantity. Exhibits showing various phases of the Foundation's program were shown at various national conventions.

The report is concluded with a list of 47 publications, scientific reports and educational materials available from the Foundation.



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More Coffee Flavor

There are many tastes to please in a hospital—nurses, patients, doctors, the administrative staff. In coffee *all* want FLAVOR. Millions enjoy Continental Coffee because it has the *most* in flavor—delicious, winey-rich, full-bodied and unvaringly fine—kept so by special Automatic Roasting Controls that maintain exact uniformity.

Continental's topnotch coffee service is so highly regarded that nearly 23,000 hospitals, restaurants, hotels, and other dining places prefer and serve Continental Coffee today! So for more coffee flavor and *better value* for *your* hospital, see your Continental Man... now!

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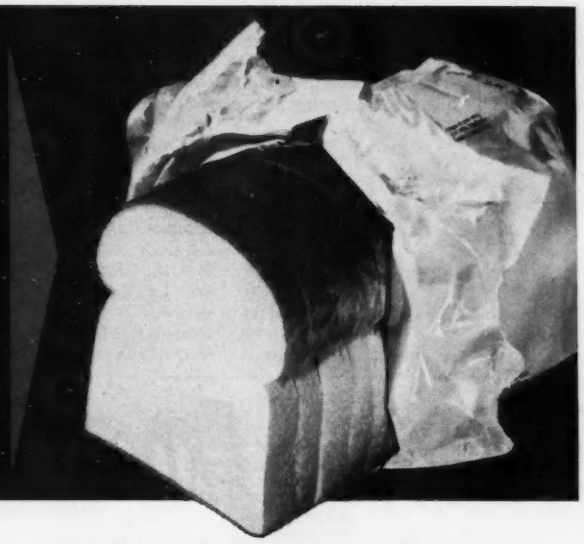
Sanitation Standards. Recently issued by the National Sanitation Foundation Testing Laboratory, Inc., is a pamphlet containing additional sketches of interpretations relating to Standard No. 2 on Food Service Equipment. These sketches in no way change the standard; they simply interpret it in greater detail. These drawings were worked out at the request of leaders in the food service industry, and it is believed they will be useful to all persons designing food service installations.

Restaurant Short Course. This year the National Restaurant Association's "Short Course" will be given at Oklahoma A. & M. College, Stillwater, rather than the University of Chicago where previous Short Courses have been held. Dates of the meeting are September 20 through 22. Leading Oklahoma restauranteurs and out-of-state guests will discuss five phases of restaurant management: "Factors Influencing Restaurant Customers," "Influencing Food Volume Sales," "Influence of Personnel Customer Volume," "Promotion Merchandising with Customer Appeal," and "New Developments in Food Preparation." Speakers will include C. A. Rovetta, Dean of Business, Florida State University, Tallahassee; Ransom Callicott, President, National Restaurant Association; and Kathryn Bruce, Education Director, National Restaurant Association.

Freezer Operating Costs. Home freezer operation costs nearly 50 per cent more in July than in December, according to a study at Arkansas Agricultural Experiment Station. In July, average use of electricity was found to be 99 kilowatt-hours in contrast to 51 in December. The station attributed the increase in July not only to warm weather but also to the large quantity of produce that is home-frozen during this summer month and perhaps to the more frequent opening of the freezer door in summer.

At the Indiana Agricultural Experiment Station, another investigation showed that freezers located in heated rooms of the house, such as the kitchen, use more electricity than those installed in unheated basements, garages, or porches. A study of electricity use in relation to age of freezer indicated that

Enriched Bread in *Dietary Planning*



BECAUSE of its nutritional, dietetic, and physiologic values, enriched bread simplifies in many ways the organization of dietaries suited to the special requirements of patients.

FOR THE SURGICAL PATIENT...

The first solid food after surgery is toasted enriched bread, slightly buttered. This practice has become a tradition—almost a ritual—because of the very nature of toast. It is bland, easily digested, and yields little inert residue. Its golden, warm appearance is pleasing to the eye; its mild taste appeals to the palate. Its nutrient energy plays a role in the physiologic and psychologic re-awakening of metabolic processes depressed under the "nothing by mouth" conditions immediately following surgery. With increasing tolerance for food it becomes an important component of the soft diet and later of the therapeutic diet.[1] Its valuable protein, B vitamins, iron, calcium and calories help the patient to regain nutritional efficiency.

FOR THE CONVALESCENT . . .

Enriched bread figures prominently in the dietary regimen in convalescence after acute infections, other serious illness, or trauma.

Supplying 13 grams of high grade protein per 5½ ounces (estimated average daily consumption), enriched bread makes an important contribution to the daily protein need. Its protein, comprising flour, milk, and yeast proteins, functions in the healing of wounds and in the rebuilding of wasted tissues.[2] In addition, 5½ ounces of enriched bread supplies on the average 0.37 mg. of thiamine, 0.23 mg. of riboflavin, 0.34 mg. of niacin, 4.1 mg. of iron, 137 mg. of calcium, and 418 calories.

FOR THE CHRONICALLY ILL...

In the formulation of palatable and nutritious menus for the debilitated, chronically ill, the advantages of enriched bread serve well.

In anorexia, enriched bread or toast stimulates the appetite. It is easily masticated and readily digested, features particularly important for elderly patients. Its favorable textural influence within the alimentary tract[3] promotes good utilization of ingested foods.

---

1. The Committee on Dietetics of the Mayo Clinic: Mayo Clinic Diet Manual, ed. 2, Philadelphia, W. B. Saunders Company, 1954.
2. Sherman, H.C.: Chemistry of Food and Nutrition, ed. 8, New York, The Macmillan Co., 1952, pp. 212, 599.
3. Sherman, H.C.: The Nutritional Improvement of Life, New York, Columbia University Press, 1950, p. 133.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

AMERICAN BAKERS ASSOCIATION
20 NORTH WACKER DRIVE • CHICAGO 6, ILLINOIS

although freezers have been in use only ten years on Indiana farms, present types of freezers hold their efficiency well and can be expected to give reliable service with only periodic inspections by qualified service men. Large freezers use more electricity per cubic food of storage than small freezers.

News of State Associations

California Dietetic Association. At the May meeting of the *Bay Section* of the California Association, Dr. Wendyll Mintz, Hotel and Restaurant Division, San Francisco City College, discussed the College's two-year training program for high school graduates. Another feature of the program was a demonstration of a new method of carving turkey for more uniform and economical service.

Connecticut Dietetic Association. On April 28, the spring meeting of the Connecticut Dietetic Association was held. Two talks were of outstanding interest. Jane Hartman, Food Service Director, Maryland Department of Health, Baltimore, spoke on "How Can We Give Effective Dietary Consultation Service?" Dr. Martha F. Trulson, Harvard School of Public Health, Boston, reported on the program and problems in establishing nutrition services in Peru.

The Connecticut scholarship award of $100 was presented to Jane Lichtman, a student at the University of Connecticut, who will use it toward her dietetic internship. The Helen Johnson Phaneuf Scholarship Fund is well on its way toward the $2000 goal, the figure at the time of the meeting being $1300.

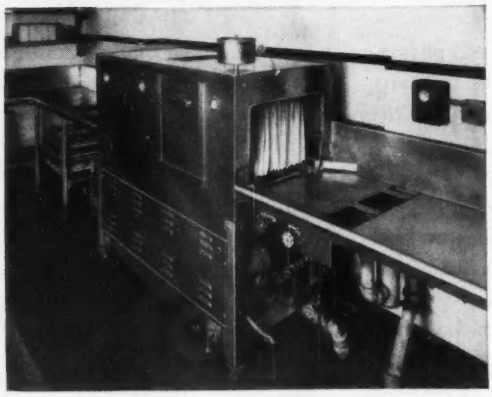
Kansas Dietetic Association. The spring meeting of the Kansas Dietetic Association held in Topeka, featured sessions led by members. Virginia Toews, Dean of Women, Bethel College, and two of her students presented a skit to illustrate attitudes and actions—both negative and positive—of the dietitian in her job and her community. Arlene Payne, University of Kansas Medical Center, led a session of the "Future of the Kansas Dietetic Internship." The members voted to make a scholarship available to anyone wishing to use it while attending the internship at the University of Kansas Medical Center.

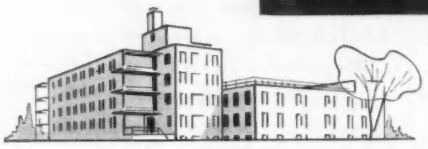
New York State Dietetic Association. *The Cayuga Dietetic Association's* May meeting was planned for the College of Home Economics students interested in professional work in the fields of Food and Nutrition and Institution Management. A panel was presented by the following: Lucy Maltby, Director of Home Economics, Corning Glass, speaking on "Opportunities in the Business World"; Frances Johnston, Associate Professor, Department of Foods and Nutrition, College of Home Economics, "Research in Nutrition"; Catherine Gazley, Head Dietitian, Biggs Memorial Hospital, "Hospital Dietetics"; Marie Knickrehm, Extension Specialist in Institution Management, College of Home Economics, "Opportunities in the Field of Extension"; Betty Jean Greer, Research Association, School of Nutrition, Cornell University, "The Work of the Community Nutritionist"; Ethel Cornelius, Director of Home Economics in the Public Schools, Ithaca, "Combining Homemaking with a Profession"; Captain Doris Parker, WMSC, "The Dietitian in Federal Service"; and Margaret DeLong, Assistant Dietitian, Clara Dickson Hall, Cornell University, "The Dietitian in Residential Halls."

The May meeting of the *Central New York Dietetic Association* was a panel discussion of the subject, "Educational Levels in the Field of Dietetics." Those participating were Dr. Ann Bourquin from Syracuse University, Lois Thomas from the New York State Agricultural and Technical Institute, Elizabeth Casey from St. Joseph's Hospital School of Nursing, Dorothy Adams from Solvay High School, and Kathryn DeWeese from the American Red Cross. Victoria Barli acted as moderator and Lois Thomas was chairman of the group. Guest commentators were Herbert N. Morford, Administrator at Good Shepherd Hospital, Mrs. C. E. Farnsworth, Chairman of the American Red Cross Nutrition Committee, and Dr. Frank Mosher, Supervising Principal of the Liverpool School System.

"Exceeds our Expectations"

says
Lee Nichols
Administrator
Kent County
Memorial Hospital
Warwick,
Rhode Island





Colt Autosan R-3 in Kent County kitchen. Scalding rinse sanitizes up to 4800 dishes per hour. Only 60" between tables.

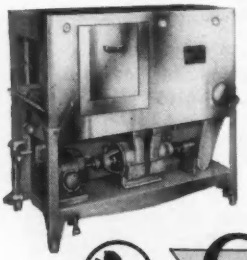
"Our Colt Autosan Dishwasher has been operating almost continuously since we opened three years ago, performing even better than we expected. Three meals and three nourishments a day for 100 patients, plus meals for a staff of 100, require practically around-the-clock washing and sanitizing of dishes, glassware, and silver."

Mr. Nichols emphasizes two points about Colt Autosan. "It's easy to operate and easy to clean. We have a full-time and a part-time dishwasher, but we require everyone in the kitchen to be able to run both our Colt Autosan and the coffee urn."

"Though our kitchen layout is very modern, space presented a problem. But our R-3 solved it, handling the load in minimum space."

In hospital after hospital—large or small, with central or decentralized kitchens, dietitians agree: rugged Colt-built Autosans speed service through long, trouble-free lives.

Write for complete information, to Colt's Manufacturing Company, 812 Sequassen Ave., Hartford 15, Conn.



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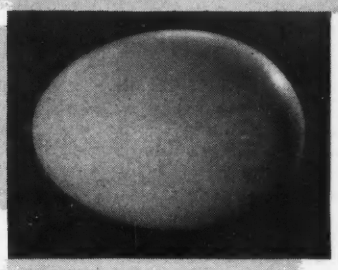
DISHWASHING, SANITIZING, DRYING MACHINES and VEGETABLE PEELERS



EGGS
in the Modern Diet

Rich in Protein—Low in Calories

Americans are becoming increasingly aware of the need for proper diet for their health and well-being. Eggs, one of the best natural sources for vitamins, are rich in protein, minerals and vitamins; yet, they are low in calories. Thus, eggs fit the modern diet concept perfectly.

Two eggs in the daily diet provide 18% of the protein necessary with only 6% of the calories. These proteins rank high in biological efficiency, including all the amino acids needed for growth and body maintenance.

The serving of two eggs also provides up to 22% of the daily Vitamin A needs as well as 24% of Vitamin D, 18% of Riboflavin (B2) and 10% Thiamine (B1). Eggs are also rich in Iron, Phosphorus, and Calcium. Because eggs contain all the essential elements for the development of complete, new living organisms, they are efficient, economical sources of nourishment for people of all ages.

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This seal signifies that all statements herein pertaining to nutrition have been found acceptable by the Council on Foods and Nutrition of the American Medical Association.

PERCENT OF DAILY ALLOWANCES* FOR THE AVERAGE ADULT

Food Nutrients	Contained in Two Eggs	Food Nutrients	Contained in Two Eggs
Protein	18%	Vitamin A	22%
Calories	6%	Thiamine (B1)	10%
Calcium	8%	Riboflavin (B2)	18%
Phosphorus	18%	Vitamin D	24%
Iron	26%	Niacin	6%

*Tables of Food Composition, as described by Committee on Food Composition, Food and Nutrition Board, National Research Council.

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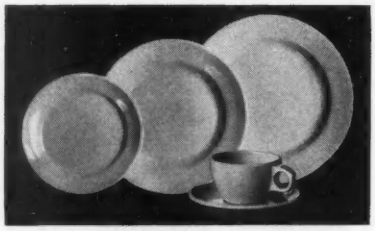

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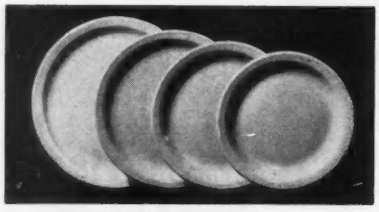
Heavy duty dinnerware of non-chipping Melamine plastic in beautiful pastel colors. Wide rim design.



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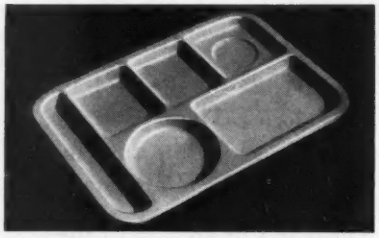

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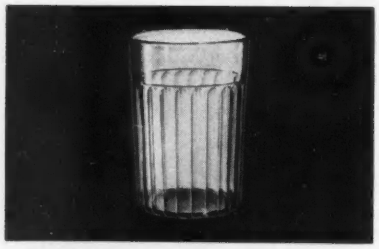

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The Long Island Dietetic Association had as guest speaker at its May meeting Katherine Nawn of the U.S. Department of Agriculture. Chefs and meat cutters were invited to attend. Miss Nawn's topic, "Meat Grading by Your Government and Its Importance to You," covered the development of those standards in government meat grading that have meant for the consumer, advances in health through better qualities of meat in the market-place.

The Rochester Dietetic Association held an Open House on May 8 at the Rochester General Hospital for high school counselors and girls interested in discovering the many phases of dietetics as a career. Jean Fox, Chairman of the Professional Education Committee, was in charge.

North Carolina Dietetic Association. The spring meeting of the North Carolina Dietetic Association was held May 6 and 7 at Chapel Hill. The morning session featured an address by Dr. Deborah C. Leary of the University of North Carolina Medical School on "Dietary Habits of Women in North Carolina in Relation to Maternal and Child Health." The business session, presided over by the president, Rebecca Rogers of Watts Hospital, Durham, was followed by a luncheon at the Carolina Inn. In the afternoon the sections on Food Administration, Professional Education, Diet Therapy, and Community Nutrition met separately to work on the projects for the year. Each group made a brief report in a summary session which concluded the meeting.

A scholarship established by the North Carolina Dietetic Association was awarded to its first recipient during the spring meeting. Elizabeth Byrd, a senior student at Woman's College of the University of North Carolina, Greensboro, received the scholarship. She will begin her dietetic internship this fall at Duke University Hospital, Durham.

The second annual Hospital Food Service Institute sponsored by the North Carolina Dietetic Association, North Carolina Hospital Association and North Carolina State Board of Health was held at the University of North Carolina, Chapel Hill, June 10–12. Food service managers and administrators representing twenty-seven hospitals attended. The program included speakers, films, discussion groups, and demonstrations on personnel training, job analysis and scheduling, sanitation, modified diets, and equipment. The Institute is limited to small hospitals with a capacity of 100 beds or under, not employing dietitians.

Oregon Dietetic Association. The following will be the officers of the Oregon Dietetic Association in 1954–55; President, Dorothy Steen, Emanuel Hospital, Portland; President-Elect, Ruth Mercer, Portland; Secretary, Alice Becker, VA Hospital, Portland; and Treasurer, Eunice Beran, Portland.

Officers for the *Portland Dietetic Association* for next year have been elected as follows: President, Patricia Erpelding; President-Elect, Amelia Steiger; Secretary, Audrey Weber; and Treasurer, Estelle Jamison.

Tennessee Dietetic Association. *The Memphis Dietetic Association* at its May meeting presented the Fairfax T. Proudfit Essay Award to Betty Jean Ballard who was the winner in a contest announced in February. The prize was a $25 savings bond. Topics from which contestants could choose were: "My Future as a Dietitian," "The Challenge of Dietetics," "My Profession—Dietetics," and "Advantages of a Dietetic Career." The essay competition was open to high school seniors in Memphis.

News of Products and Services

Edward Don & Company is now marketing a new Thermo-Krisp Salad Bowl. A special design provides a ½-in. pocket for crushed ice to keep salads fresh. The bowls are made of heavy-duty plastic, are non-breakable, and non-warping, and come in a number of attractive colors: black, chartreuse, burgundy, deep yellow, and coral.

Three "Home Freezing Guides," edited by Julia Kiene, director of the Westinghouse Home Economics Institute, have just been released by *Westinghouse Electric Appliance Division*. The three booklets contain recently developed recipes and methods for freezing fruits, vegetables, meats, and ready-cooked foods. The first guide, "How to Freeze Fruits and Vegetables" covers: how to pick fruits and vegetables for freezing, their preparation for freezing, and thawing or cooking when removed from the freezer. "How to Freeze Meat and Game, Poultry, Fish and Dairy Products" is the second guide. It points out the care which must be taken in wrapping meat for freezing, how to select and prepare it for freezing, and the length of time various meats, fish, and dairy products may be safely kept frozen. The third guide, "How to Freeze Ready-Cooked Foods" covers proper freezing techniques for breads, sandwiches, cakes and cookies, pies and pastries, and other desserts. Each guide is sixteen pages in length and costs 5 cents.

S. Blickman, Inc., has introduced a new sanitary, stainless steel milk formula dispenser which is said to reduce bottle-filling time by as much as 50 per cent. The dispenser consists of a 10½-qt. dispensing container mounted on a stainless steel stand. There are no valves or other parts to become contaminated. Instead, formula flows from a stainless steel spout through a latex rubber tube. A simple clamp on the tube controls the flow, and the tube itself is easily cleaned and sterilized, is disposable, and can be replaced periodically. The stand is fitted with rubber tips to avoid possibility of marring work surfaces. The entire piece of equipment is said to conform to the high aseptic standards for milk formula preparation.

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Tavern Kitchen, service side, showing counters and sliding panels giving waiters access to hot and cold prepared dishes.

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Main Kitchen—Pastry Section—showing access to refrigerated cabinets from the service side. Menu card holders on the doors expedite service.

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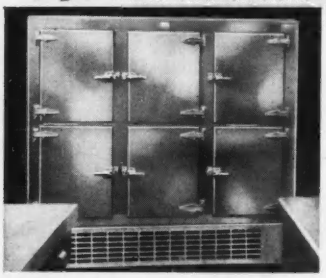

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This is a project of the Diet Therapy Section of The American Dietetic Association.

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